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## **Airfield Pavement Condition Survey, Sabre Army Heliport, Fort Campbell, Kentucky**

Patrick S. McCaffrey, Jr.

March 2002



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## **Final report**

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# Preface

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The purpose of this report is to provide an assessment of the condition of the airfield pavements at Sabre Army Heliport (SAHP), Fort Campbell, Kentucky. The results of this investigation should be used to:

- a.* Establish the work plans required to reach and maintain predetermined facility conditions.
- b.* Develop maintenance strategies to make the best use of available maintenance dollars.
- c.* Maintain the Micro PAVER database.

Users of information from this report include the installation's Directorate of Installation Support (DIS), engineering design agencies (DIS's, U.S. Army Corps of Engineers), Airfield Commanders, U.S. Army Aeronautical Services Agency, and agencies assigned operations planning responsibilities. Information concerning aircraft inventory, passes, and operations shall not be released outside U.S. Government agencies. This report satisfies requirements for condition inspection established in Army Regulation AR 420-72 (Headquarters, Department of the Army 2000) and supports airfield survey requirements identified in Army Regulation AR 95-2 (Headquarters, Department of the Army 1990).

The Army Airfield Pavement Evaluation Program is sponsored and technically monitored by the U.S. Army Corps of Engineers, Transportation Systems Center (CENWO-ED-TX), located in Omaha, NE. The U.S. Army Forces Command, Fort McPherson, Georgia, provided funding for this investigation.

Personnel of the U.S. Army Engineer Research and Development Center (ERDC), Geotechnical and Structures Laboratory (GSL), Vicksburg, MS, prepared this publication. The findings and recommendations presented in this report are based upon pavement condition survey work at SAHP. The required field testing was conducted in December 2001. The survey team consisted of Messrs. Dan D. Mathews and Patrick S. McCaffrey, Jr., Airfield and Pavements Branch (APB), GSL. Mr. McCaffrey prepared this publication under the supervision of Mr. Don R. Alexander, Chief, APB, Dr. Albert J. Bush III, Chief, Engineering Systems and Materials Division, and Dr. Michael J. O'Connor, Director, GSL.

At the time of publication of this report, Dr. James R. Houston was Director of ERDC, and COL John W. Morris III, EN, was Commander and Executive Director.

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# Executive Summary

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Personnel of the U.S. Army Engineer Research and Development Center (ERDC), Vicksburg, MS, conducted the field testing at Sabre Army Heliport (SAHP), Fort Campbell, Kentucky, during December 2001. A condition survey was conducted to establish the condition of the airfield surface, and the pavement condition index (PCI) of each feature was determined.

Significant conclusions resulting from the 2001 airfield pavement condition survey reveal the following:

- a.* The condition survey indicates that the overall rating of the airfield features is very good to excellent and meets or is above the minimum acceptable level.
- b.* The PCI's of features T8B and T9B failed to meet the minimum acceptable level.
- c.* Installation Status Report (ISR) ratings for the airfield are shown in Illustration 1.
- d.* Approximately \$12,150 (FY02) for repair is required to improve the surfaces of features T8B and T9B to meet the minimum PCI requirements. This also includes repair to an isolated area of alligator cracking (Photo 4) at the intersection of features T6B and T7B (sta 12+77).
- e.* The major distress types observed on the asphalt concrete (AC) pavements were medium-severity, longitudinal and transverse cracking, low-severity depressions, low-, medium-, and high-severity shoving, and low-severity block cracking. The major distress types observed on the PCC pavements were low-, medium-, and high-severity joint and corner spalls, medium-severity durability cracking, and joint seal damage.
- f.* The PCI and recommended maintenance strategies for each feature are given in Table ES-1.

Additional details on surface condition and work required to maintain and strengthen the airfield are contained in Chapters 2 and 3 of this report.

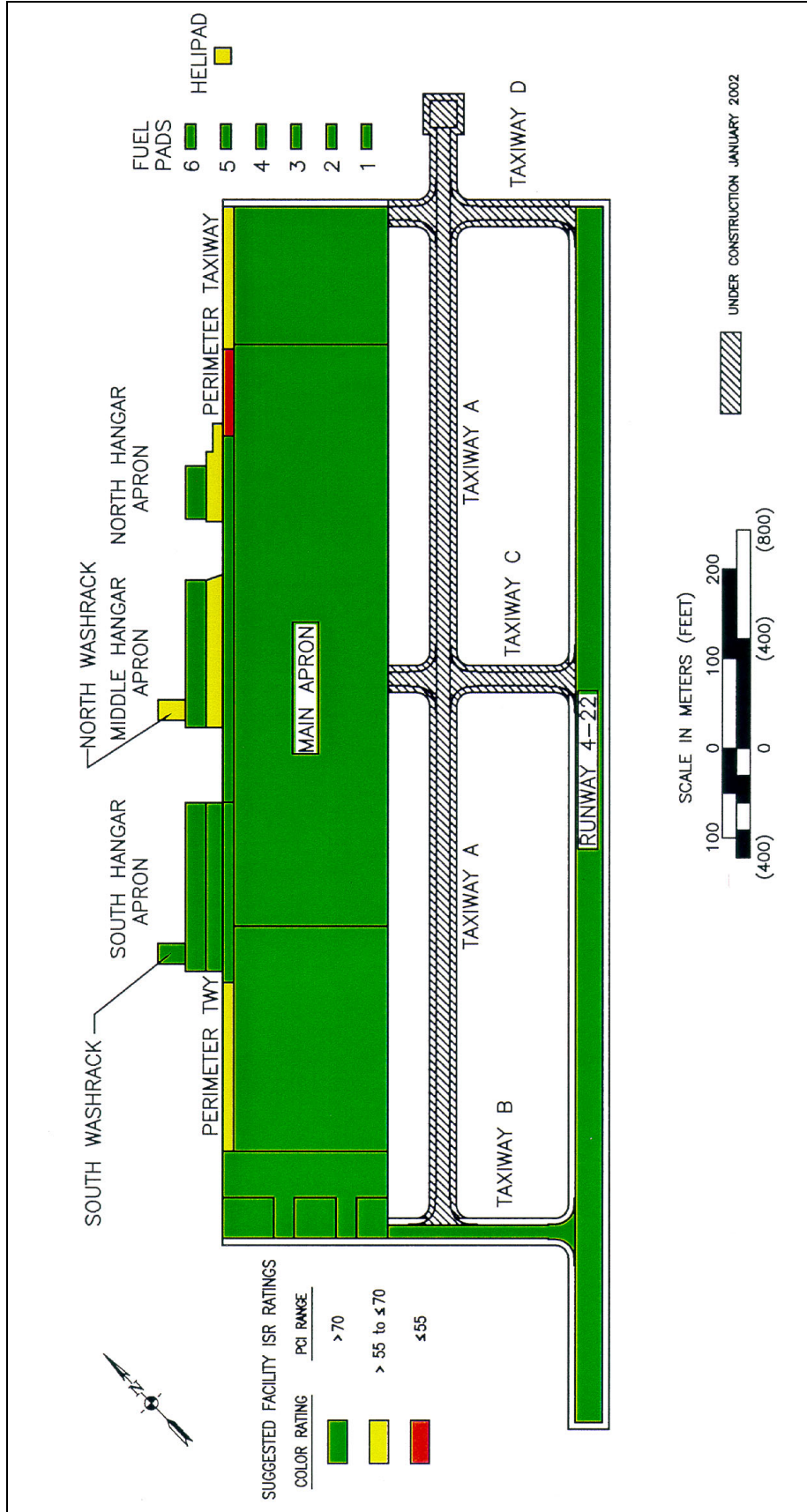


Illustration 1. Airfield pavement ISR ratings

Table ES-1 PCI and Maintenance Strategies						
Pavement Feature	PCI	ISR Rating <sup>2</sup>	Work Classification <sup>1</sup>			
			Do Nothing	Maintenance	Repair	Major Repair
R1A	100	Green	X			
R2A	100	Green	X			
R3C	100	Green	X			
R4A	100	Green	X			
T1A	Under Construction					
T2A	100	Green	X			
T3C	Under Construction					
T4A	Under Construction					
T5B	70	Yellow		X		
T6B	84	Green		X		
T7B	81	Green		X		
T8B	48	Red			X	
T9B	57	Yellow		X		
A1B	100	Green	X			
A2B	86	Green	X			
A3B	95	Green	X			
A4B	81	Green		X		
A5B	95	Green	X			
A6B	91	Green	X			
A7B	81	Green		X		
A8B	93	Green	X			
A9B	90	Green	X			
A10B	61	Yellow		X		
A11B	57	Yellow		X		
A12B	99	Green	X			
A13B	68	Yellow		X		
A14B	93	Green	X			
A15B	70	Yellow		X		
A16B	Under Construction					

<sup>1</sup> Work is categorized for preliminary planning purposes only. Classification of work for administrative approval is an installation responsibility. Policy guidance for airfield pavements is provided in AR 420-72. In general, if the pavement real property facility is in a failed or failing condition, structural improvements to accommodate normal growth and evolution of missions and equipment are properly classified as repair work. The following types of work are properly classified as major repair: strengthening of a pavement to accommodate a new mission, extension or widening of the pavement, or complete replacement of the real property facility. Maintenance tasks for AC pavements include: crack sealing, partial and full depth patches, and surface seals. PCC pavement maintenance tasks include: crack and joint sealing and partial and full depth patches.  
<sup>2</sup> Based on the PCI of the pavement feature.

# 1 Introduction

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## Background

In May 1982 the Department of the Army initiated a program to determine and evaluate the physical properties, the load-carrying capacity for various aircraft, and the general condition of the pavements at major U.S. Army Airfields (AAFs). This program was established at the request of the Major Army Commands (FORSCOM, TRADOC, and AMC). Headquarters, U.S. Army Corps of Engineers (CECW-EW) sponsors a program for periodic evaluation of Army Airfield facilities in accordance with Army Regulation AR 420-72 (Headquarters, Department of the Army 2000). All Category 1 AAFs and instrumented U.S. Army Heliports (AHPs) are included in the CECW-EW program. The condition survey of the airfield pavements was performed to determine the condition of the existing pavements. Results of this survey were also used to identify maintenance, repair, and major repair work requirements and to help establish Installation Status Report (ISR) ratings. The U.S. Army Forces Command, Fort McPherson, Georgia, provided funding for this investigation.

## Objective and Scope

The objectives of this investigation were to determine the pavement condition index (PCI) of the airfield pavements and to update the Micro PAVER database, and provide the Director of public Works with locations of areas needing maintenance and repairs. The condition survey data were input into the Micro PAVER pavement management system database, which was created following the airfield pavement evaluation conducted in 1996. The inclusion of the data from this condition survey into the Micro PAVER database will allow the installation to determine the amount of deterioration, which has occurred since the previous survey, and assist the installation in making future pavement management decisions. These objectives were accomplished by:

- a. Performing a condition survey to determine pavement distresses (type, severity and magnitude) in accordance with American Society for Testing and Materials (ASTM) D 5340-93 (ASTM 1994).

- b.* Inputting the condition survey data into the Micro PAVER database to calculate the PCI of the pavement features.
- c.* Producing detailed drawings of the pavement features to ensure that future condition surveys will be performed on the same locations as in previous surveys.
- d.* Identifying pavement features requiring maintenance or repairs, and recommending alternatives for pavement improvements.

This report provides a general description of the airfield, construction history, PCI of the existing pavement features, and recommended alternatives for maintenance, repair, or construction.

## 2 Background Data

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### Description of the Airfield<sup>1</sup>

SAHP is an instrument flight rules (IFR) heliport located in the southeast part of Fort Campbell, Kentucky. It is approximately 17 km (10 miles)<sup>1</sup> north of Clarksville, TN, and 25 km (15 miles) south of Hopkinsville, KY, along U.S. Highway No. 41. In December 2001, the heliport consisted of one PCC runway, one PCC taxiway connecting the runway to the apron areas, one large PCC parking apron, a perimeter taxiway along the edge of the parking apron, various flexible and rigid pavement hangar aprons, two aircraft washracks, six hot fuel pads, and one helipad.

A layout of the heliport pavements is shown in Figure 1, and pavement feature identifications and locations are shown in Figure 2. The runway is 30 m (100 ft) wide and 1,356 m (4,450 ft) long.

The heliport is located in an area consisting of rolling relief with grades up to 15 percent, the average being about 3 percent. The maximum difference in ground elevations is approximately 11 m (35 ft). The soils found in the area were derived from limestone, sandstone, and shales and are generally classified as CL (lean to sandy clays). The soils tend to become intermingled with cherty deposits and weathered rock fragments with depth. The parent rock is a cavernous limestone which lies 15-27 m (50-90 ft) below the ground surface. The caverns within the limestone are considered to be interconnected.

### Previous Reports

The previous reports pertaining to the heliport facilities are listed below, and pertinent data were extracted from them for use in this evaluation report.

- a. U.S. Army Engineer Waterways Experiment Station. (1996). "Airfield Pavement Evaluation, Sabre Army Heliport, Fort Campbell, Kentucky," Miscellaneous Paper GL-96-32, Vicksburg, MS.

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<sup>1</sup> Most of the dimensions and measurements reported were obtained in non-SI units. All such values have been converted using the conversion factors given in ASTM E 621-94 (ASTM 1999).



- b. Skar, Bernard J. (1993). "Trip Report for Site Visit to Sabre Army Helipoint, Fort Campbell, Kentucky," U.S. Army Corps of Engineers Transportation System Center, Omaha, NE.

## Design and Construction History

The original pavements at SAHP were constructed in 1975 and 1976 using design criteria from TM 5-330. Operations at Sabre were visual flight rules (VFR), but improvements to the airfield have been made for nonprecision instrument flight rules (IFR) operations.

The facilities consist of the original 12-m (40-ft)-wide and 715-m (2,345-ft)-long tactical landing lane remarked as a nonprecision IFR rotary-wing runway constructed in 1975. At the time of this investigation this runway was in the process of being removed and will be replaced with a parallel taxiway in 2002. The Main Apron is 168 m (550 ft) wide and 1236 m (4,055 ft) long and is composed of an original feature (A4B) constructed in 1975 and 1976 which was extended in 1989 to its present length. Two 12-m (40-ft)-wide and (180-ft)-long taxiways were built in 1989 to connect the runway and the parking apron. An AC Perimeter Taxiway was built in 1974 which extends along the edge of the parking apron. A seal coat was placed on Features T6B and T8B sometime before 1990. A 51-mm (2-in.) AC overlay was placed on Features T6B and T7B in 1990. The South Hangar Apron was constructed in 1989. The Middle Hangar Apron (A9B and A10B) was built in 1974. The AC feature (A10B) was surface treated sometime before 1990 and overlaid with 51-mm (2-in.) of AC in 1990. Feature A13B of the North Hangar Apron was built in 1974, surface treated before 1990, and overlaid in 1990 with a 51-mm (2-in.) layer of AC. The PCC feature (A12B) was constructed in 1989. The North Washrack (A11B) was constructed in 1974, and the South Washrack (A8B) was constructed in 1989. Both the Hot Fuel Pads and the Helipad were constructed in 1989. A seal coat was applied to the South Hangar Apron (A7B) and the Perimeter Taxiway (T6B) after the 1996 evaluation. A new 30-m (100-ft)-wide and 1,356-m (4,450-ft)-long PCC runway was constructed in 2001. Taxiway B was constructed to connect the new runway to the Main Apron.

# **3 Pavement Condition Survey and Results**

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## **Pavement Condition Survey**

A pavement condition survey is a visual inspection of the airfield pavements to determine the present surface condition. The condition survey consists of inspecting the pavement surface for various types of distress, determining the severity of each distress, and measuring the quantity of each distress. The estimated quantities and severity of each distress type are used to compute the PCI for each feature. The PCI is a numerical indicator based on a scale from 0 to 100 and is determined by measuring pavement surface distress that reflects the surface condition of the pavement. Pavement condition ratings (from excellent to failed) are assigned to different levels of PCI values. These ratings and their respective PCI value definitions are shown in Figure 3. The distress types, severity levels, methods of survey, and PCI calculations are described in ASTM D5340-93.

## **Test Procedure**

The PCI and estimated distress quantities are determined for each feature. The information is based on inspection of a selected number of sample units. Sample units are subdivisions of a feature used exclusively to facilitate the inspection process and reduce the effort needed to determine distress quantities and the PCI. Each feature was divided into sample units. The sample units for AC pavement features were approximately 465 sq m (5,000 sq ft). A statistical sampling technique was used to determine the number of sample units to be inspected to provide a 95 percent confidence level. Sample units were chosen along the centerline of the taxiways and randomly on the runway and on the aprons. The Stationing and direction of PCI survey are shown in Figure 4. Sample unit locations for the various runway features are shown in Figures 5. Sample unit locations for the taxiway and apron features are shown in Figures 6 through 10. The surveyed sample units are circled. After the sample units were inspected, the mean PCI of all sample units within a feature was calculated and the feature was rated as to its condition: excellent, very good, good, fair, poor, very poor, or failed.

## Analysis of PCI Data

The distress information collected during the survey was used with the Micro PAVER computer program to estimate the quantities of distress types for each feature. This information is presented along with the PCI, general rating, and distress mechanism (load, climate, or other) in Appendix A. Photos 1 through 10 show various types of distresses observed during the survey.

AR 420-72 (Headquarters, Department of the Army 2000) requires that all airfield pavements be maintained at or above the following PCI ranges:

- All runways > 70
- All primary taxiways  $\geq 60$
- All aprons and secondary taxiways > 55

AR 420-72 (Headquarters, Department of the Army 2000) also requires that the following PCI range for airfield pavements shall be used for the Installation Status Report (ISR) rating:

- $70 < \text{PCI} \leq 100$  equals an ISR Green rating
- $55 < \text{PCI} \leq 70$  equals an ISR Amber rating
- $0 < \text{PCI} \leq 55$  equals an ISR Red rating

The PCI for each sample unit inspected was calculated and stored on a Micro PAVER file for SAHP. The mean PCI for each feature was then calculated to determine the general condition or rating of the feature as shown in Figure 11. A comparison of the 2001, and 1996 PCI results is summarized in Table 4. The PCI of five of the airfield features decreased from one to thirteen points during the 1996 to 2001 period. This loss in PCI points is considered normal (4 to 6 points per year). The PCI of eight of the airfield features increased from two to nine during the 1996 to 2001 period. The increase in PCI of seventeen to twenty points on the South Hangar Apron (A7B) and Perimeter taxiway (T6B) was due to a seal coat applied after the 1996 survey.

## 4 Conclusions and Recommendations

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### Conclusions

The PCI's of all the airfield features except for features T8B and T9B on the Perimeter Taxiway meet or are above the required minimum. The PCI's of features T8B and T9B do not meet the minimum acceptable level. Based on the extrapolated distress quantities shown in Appendix A, the recommended maintenance, repair, or construction alternatives shown in Tables 5 and 6 and the cost estimating guide shown in Table 7, approximately \$12,150 are required to upgrade these two features to an acceptable level. This also includes repair to an isolated area of alligator cracking (Photo 4) at the intersection of features T6B and T7B (sta 12+77). The major distress types observed on the AC pavement facilities were low-medium-and high-severity, longitudinal and transverse cracking, medium-severity block cracking, and low-, medium-, and high-severity shoving. In general, the airfield AC pavements are in good to very good condition.

The major distress types observed on the PCC pavement facilities were low-medium-and high-severity joint and corner spalls, medium-severity joint seal damage, low-severity corner breaks, and low-and medium-severity small patches. In general, the airfield PCC pavements are in excellent condition.

ISR ratings based on the PCIs of each respective facility are shown in Illustration 1.

### Recommendations

The severity level in which distress types are classified during a pavement condition survey is a controlling factor in determining the condition rating of the pavement. By performing proper maintenance on the airfield pavements, the severity levels can be kept in the low-severity classification. Recommended maintenance and rehabilitation alternatives suggested for the existing surfaces are summarized in Table 8. These alternatives should be performed as soon as possible to retain the full benefit of the structural capacity of the existing pavements.

# References

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American Society for Testing and Materials. (1994). "Standard test method for airport pavement condition index surveys," Designation: D 5340-93, Philadelphia, PA.

\_\_\_\_\_. (1999). "Standard practice for use of metric (SI) units in building design and construction," (Committee E-6 Supplement to E380), Designation E 621-94, Philadelphia, PA.

Headquarters, Department of the Army. (1990). "Air traffic control, airspace, airfields, flight activities, and navigational aids," Army Regulation 95-2, Washington, DC.

\_\_\_\_\_. (2000). "Transportation infrastructure and dams," Army Regulation 420-72, Washington, DC.

Headquarters, Departments of the Army and the Air Force. (1993). "Standard practice for sealing joints and cracks in rigid and flexible pavements," Technical Manual TM 5-822-11/AFP 88-6, Chap. 7, Washington, DC.

Skar, Bernard J. (1993). "Trip report for site visit to Sabre Army Heliport, Fort Campbell, Kentucky," U.S. Army Corps of Engineers Transportation System Center, Omaha, NE.

U.S. Army Engineer Waterways Experiment Station. (1996). "Airfield pavement evaluation, Sabre Army Heliport, Fort Campbell, Kentucky," Miscellaneous Paper GL-96-32, Vicksburg, MS.

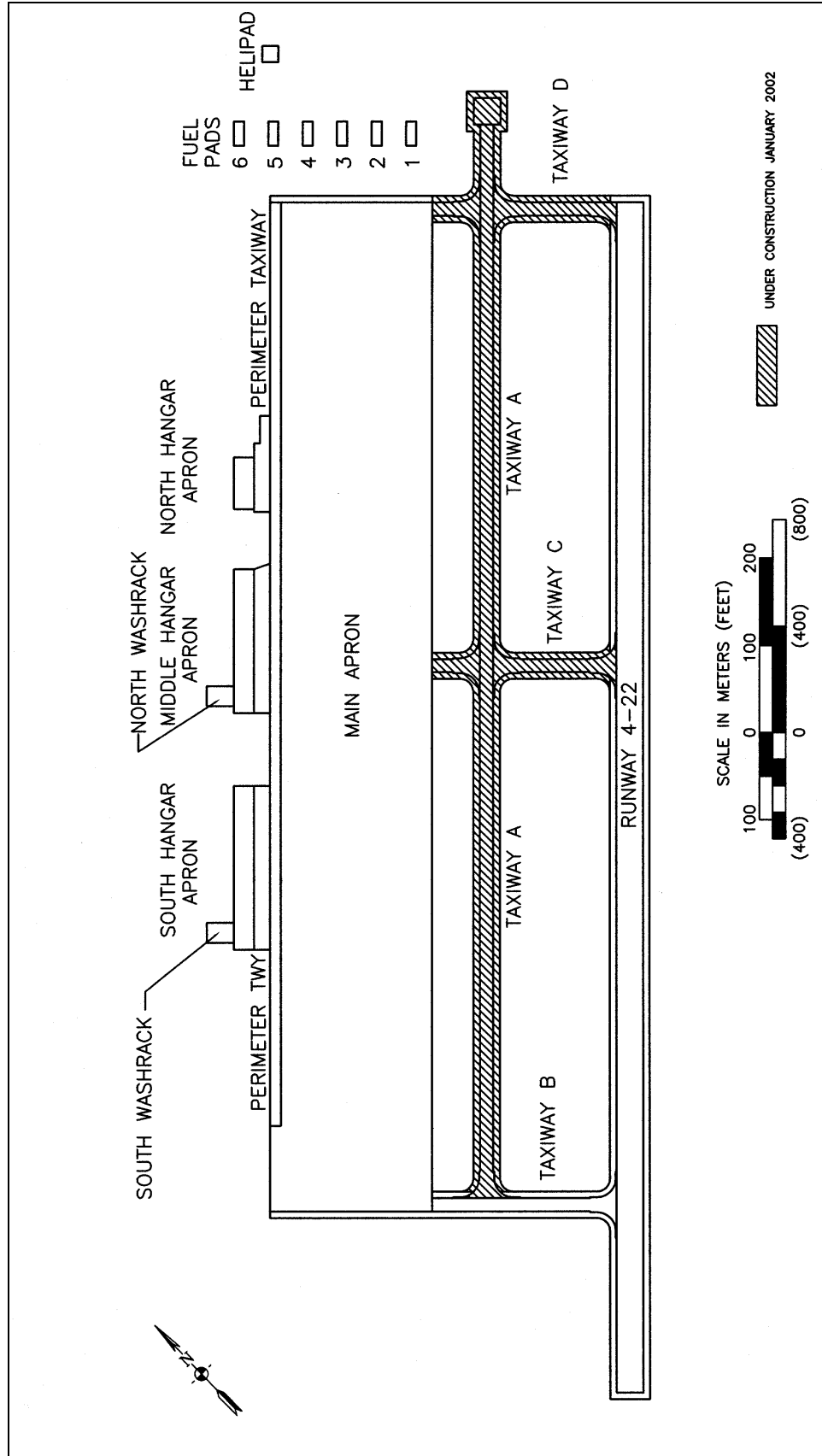


Figure 1. Layout of airfield and facility identifications

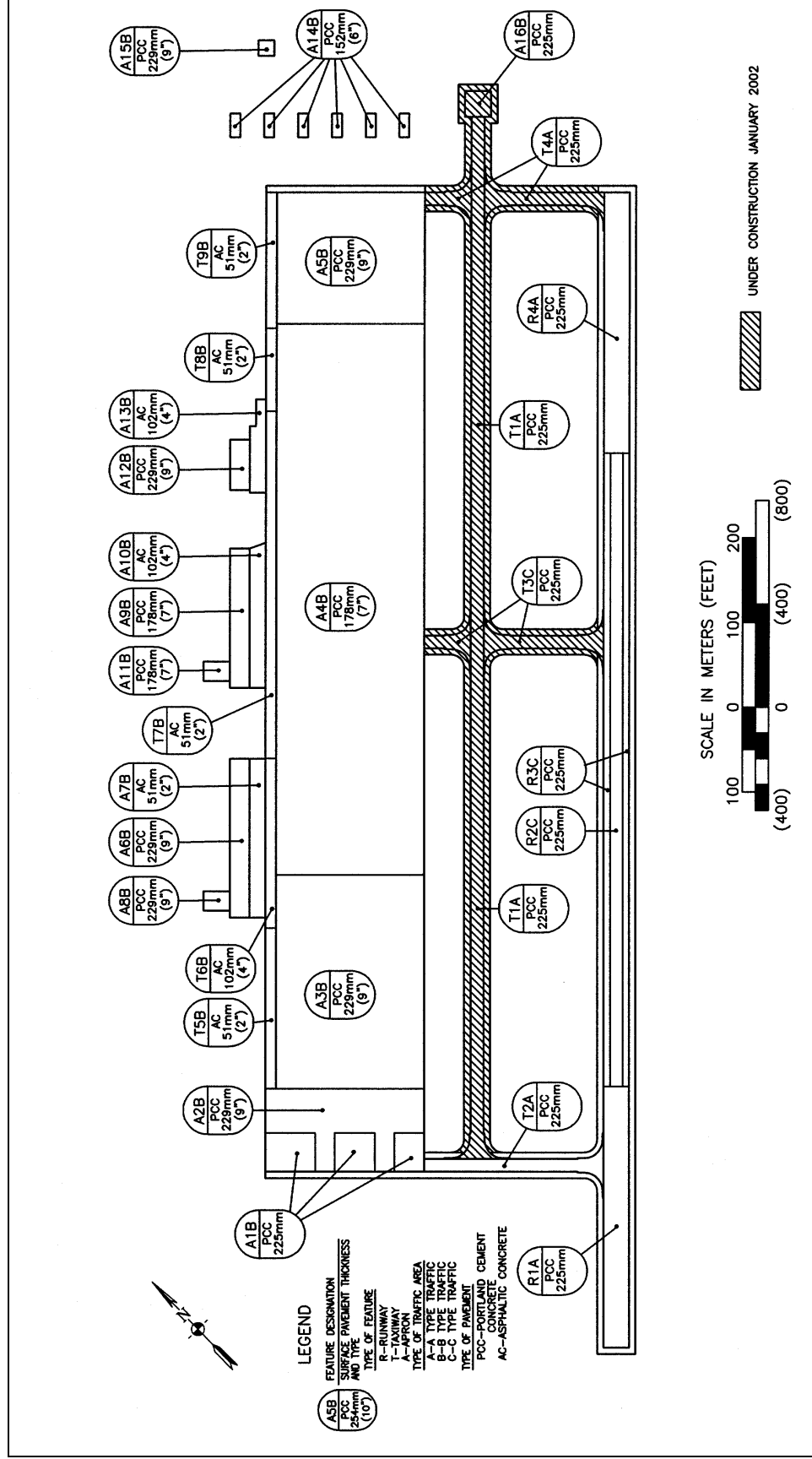


Figure 2. Pavement feature identification and location



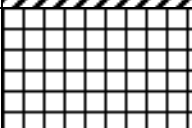
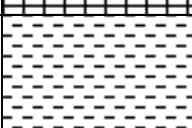



PAVEMENT CONDITION INDEX (PCI)		PAVEMENT CONDITION RATING
100		<b>EXCELLENT</b>
86		
85		<b>VERY GOOD</b>
71		
70		<b>GOOD</b>
56		
55		<b>FAIR</b>
41		
40		<b>POOR</b>
26		
25		<b>VERY POOR</b>
11		
10		<b>FAILED</b>
0		

Figure 3. Scale for pavement condition rating



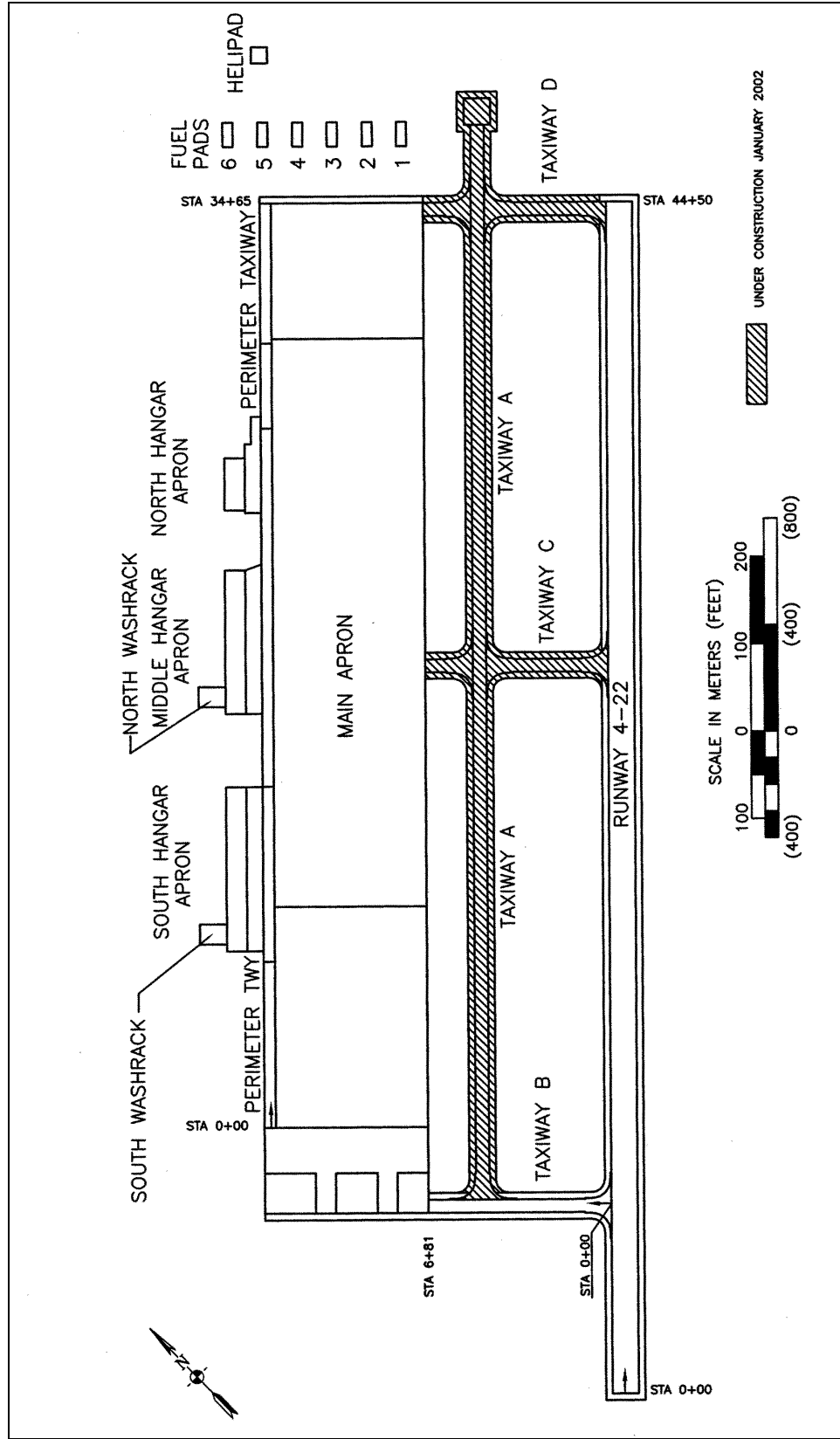


Figure 4. Direction of condition survey at SAHP

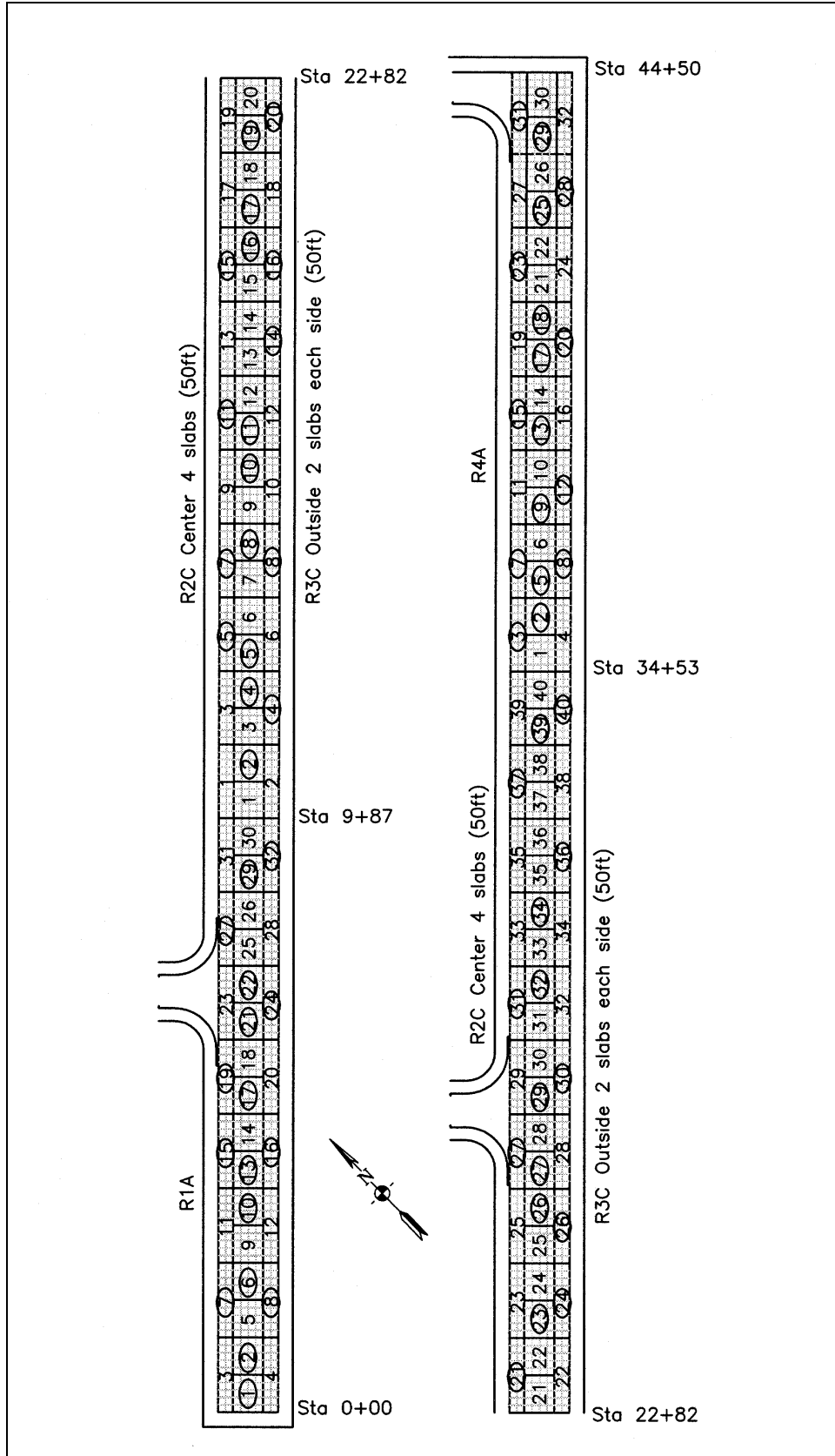


Figure 5. Sample unit layout, Runway 4-22, (R1A through R4A)

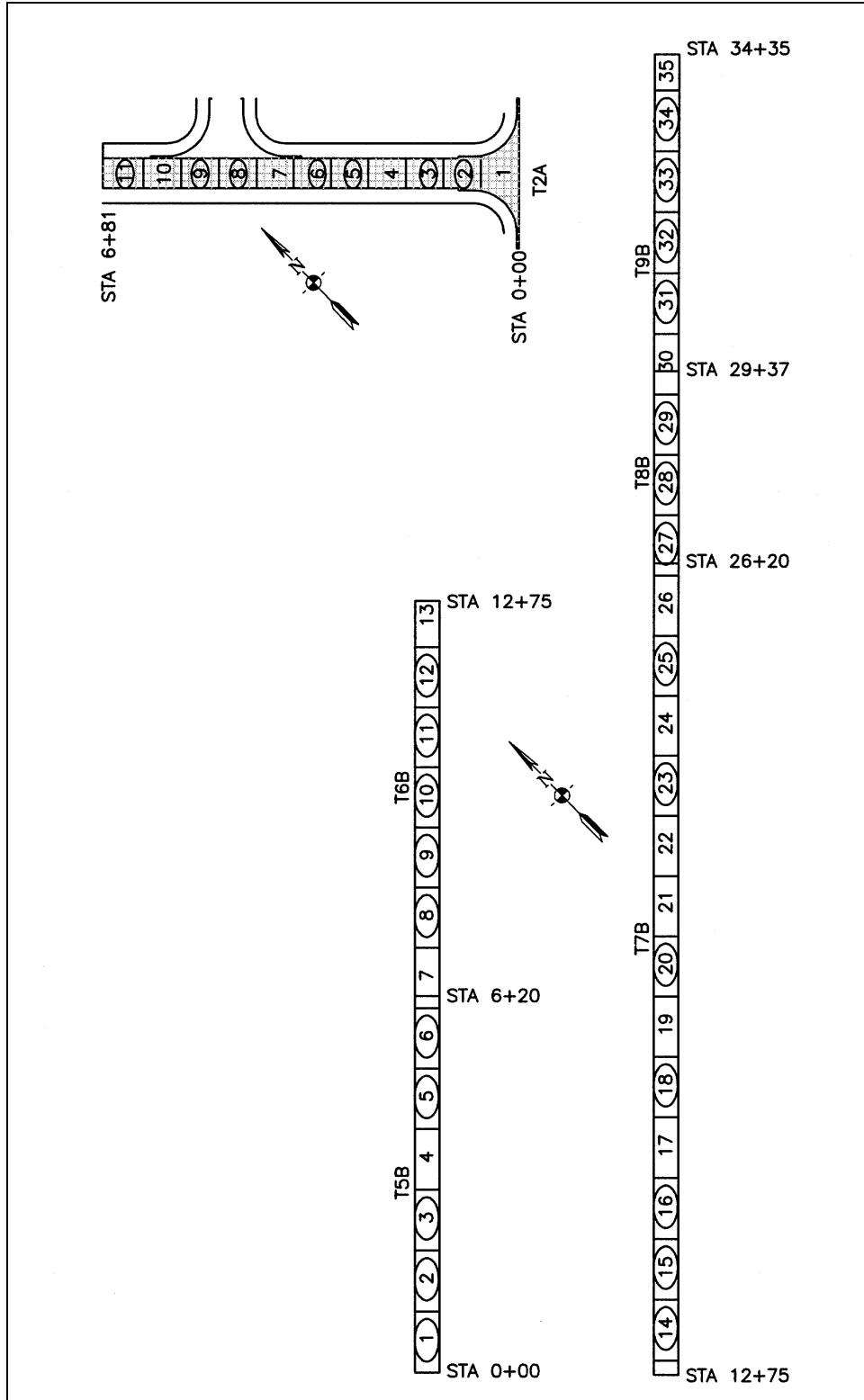


Figure 6. Sample unit layout, Taxiway B and the Perimeter Taxiway, (T2A and T5B through T9B)

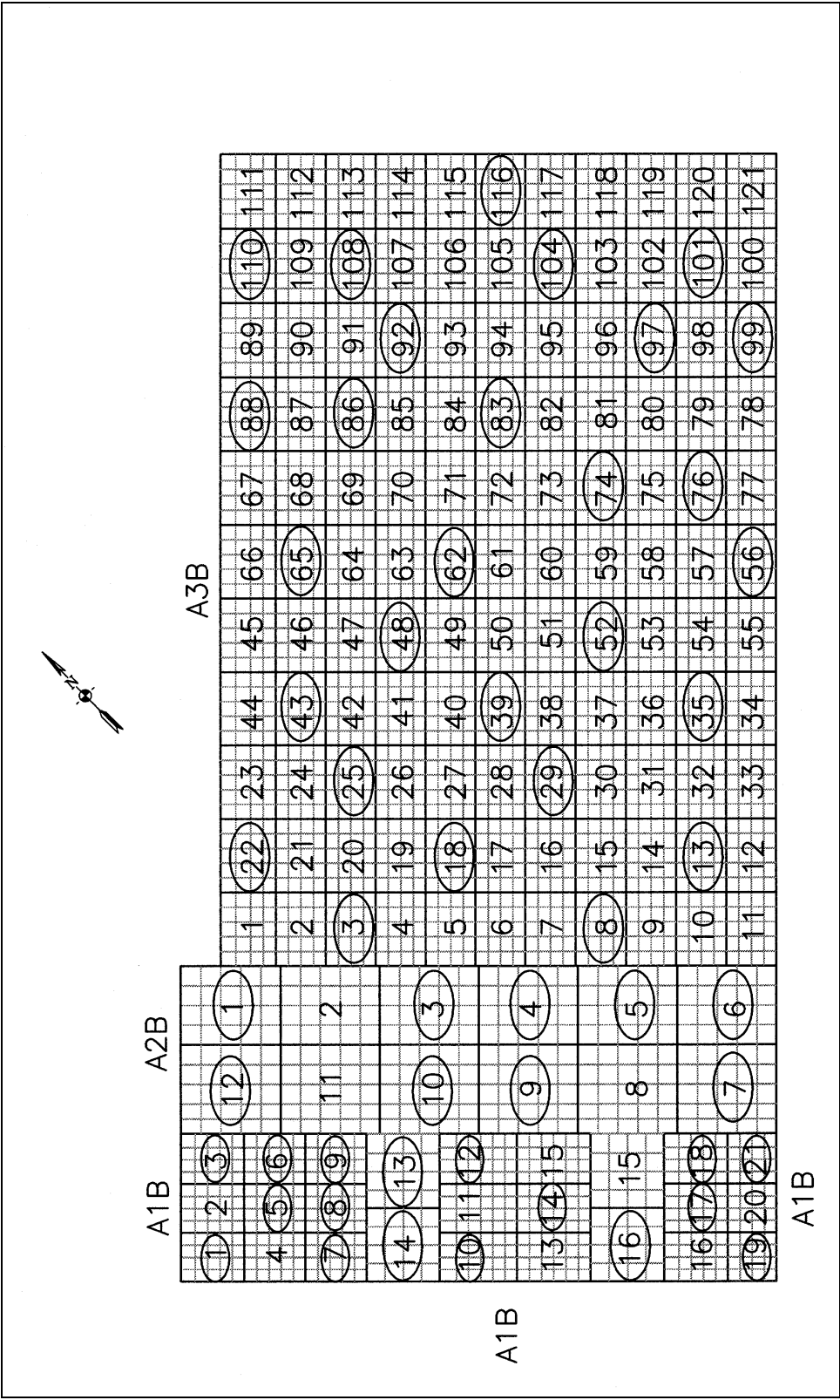


Figure 7. Sample unit layout, Main Apron, (A1B, A2B, and A3B)

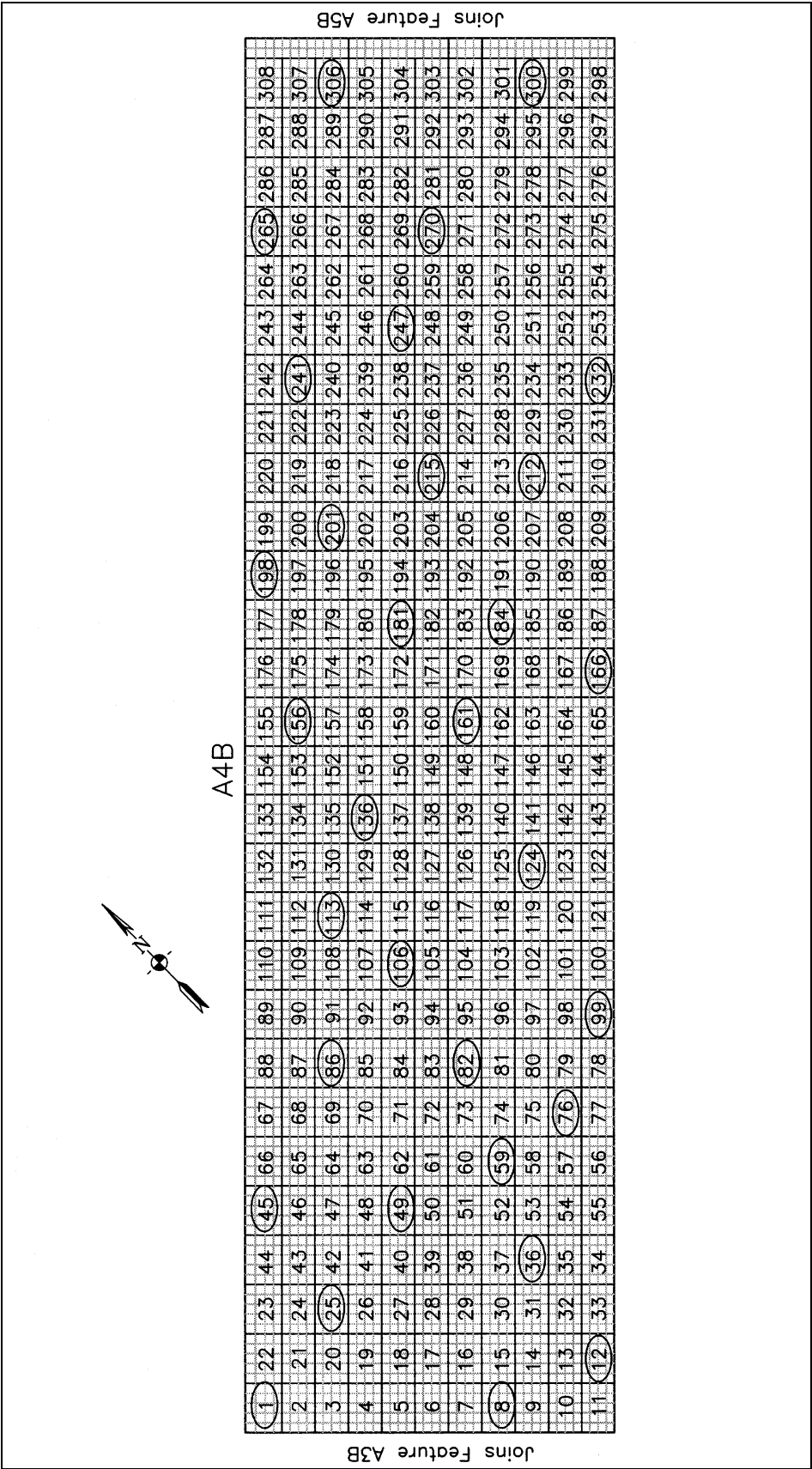


Figure 8. Sample unit layout, Main Apron (A4B)

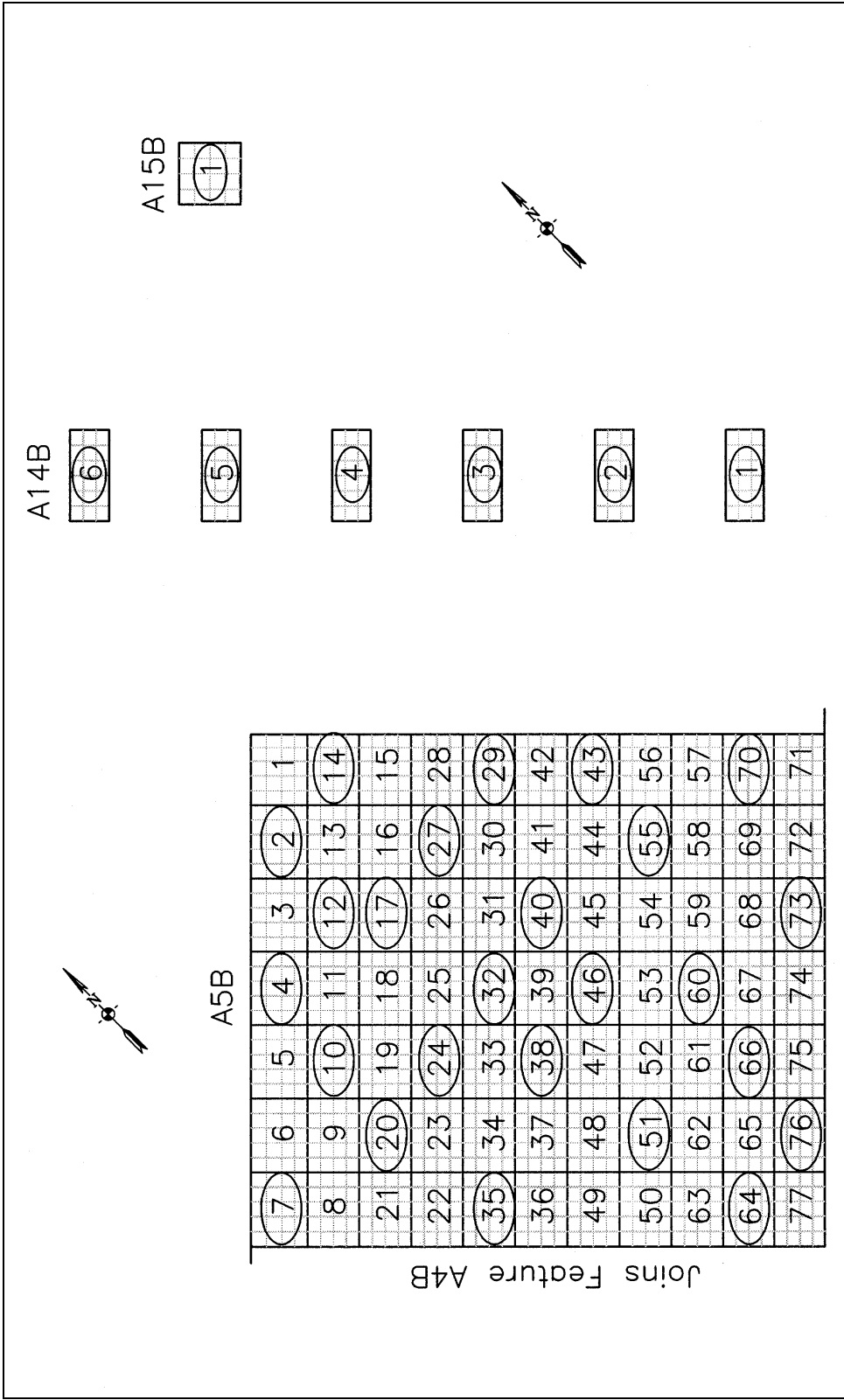


Figure 9. Sample unit layout, Main Apron, Refuel pads 1-6 and Helipad (A5B, A14B and A15B)

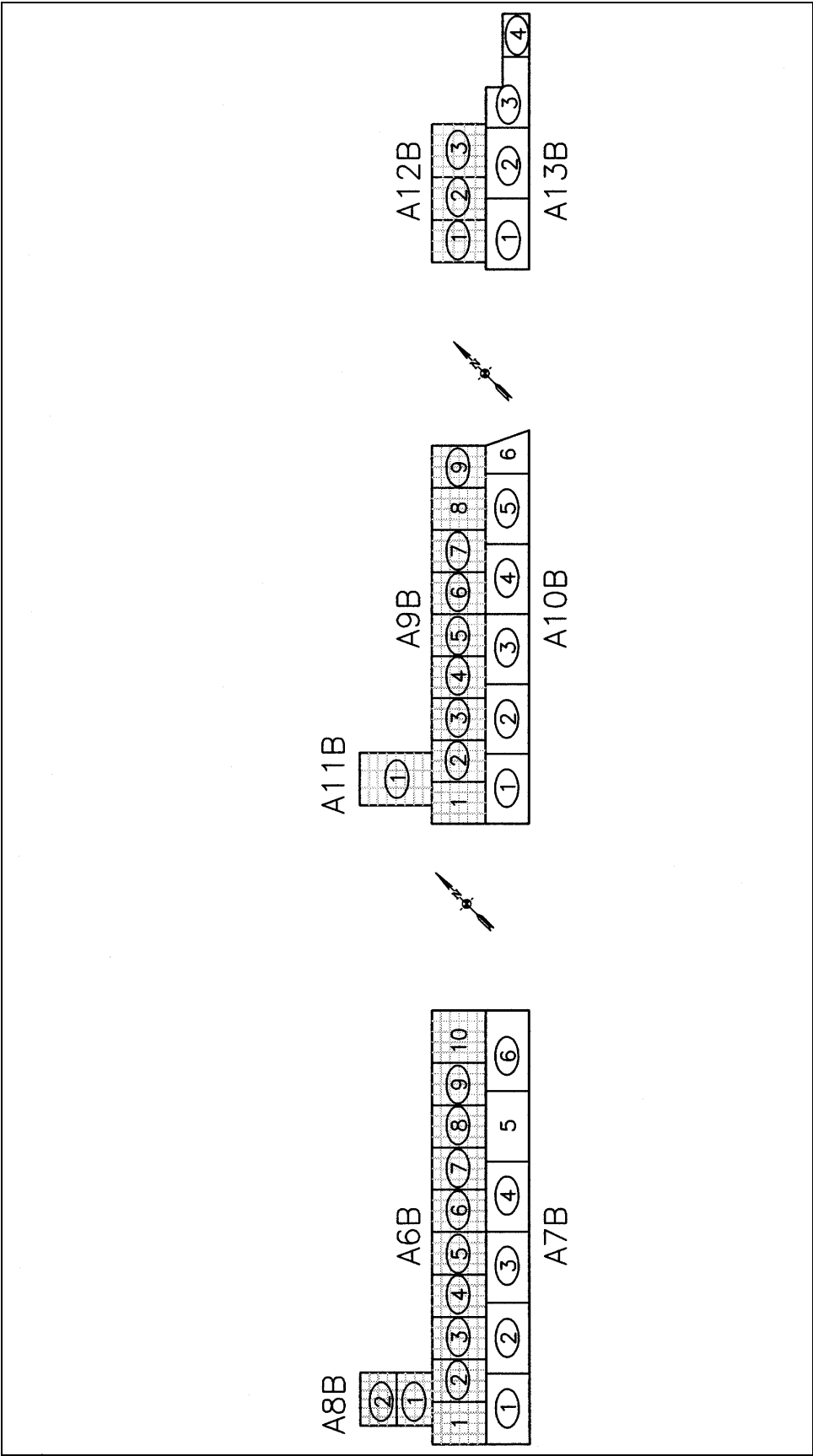


Figure 10. Sample unit layout, South Hangar Apron, South Wash Rack, Middle Hangar Apron, North Wash Rack and North Hangar Apron (A6B, A7B, A8B, A9B, A10B, A11B, A12B, and A13B)

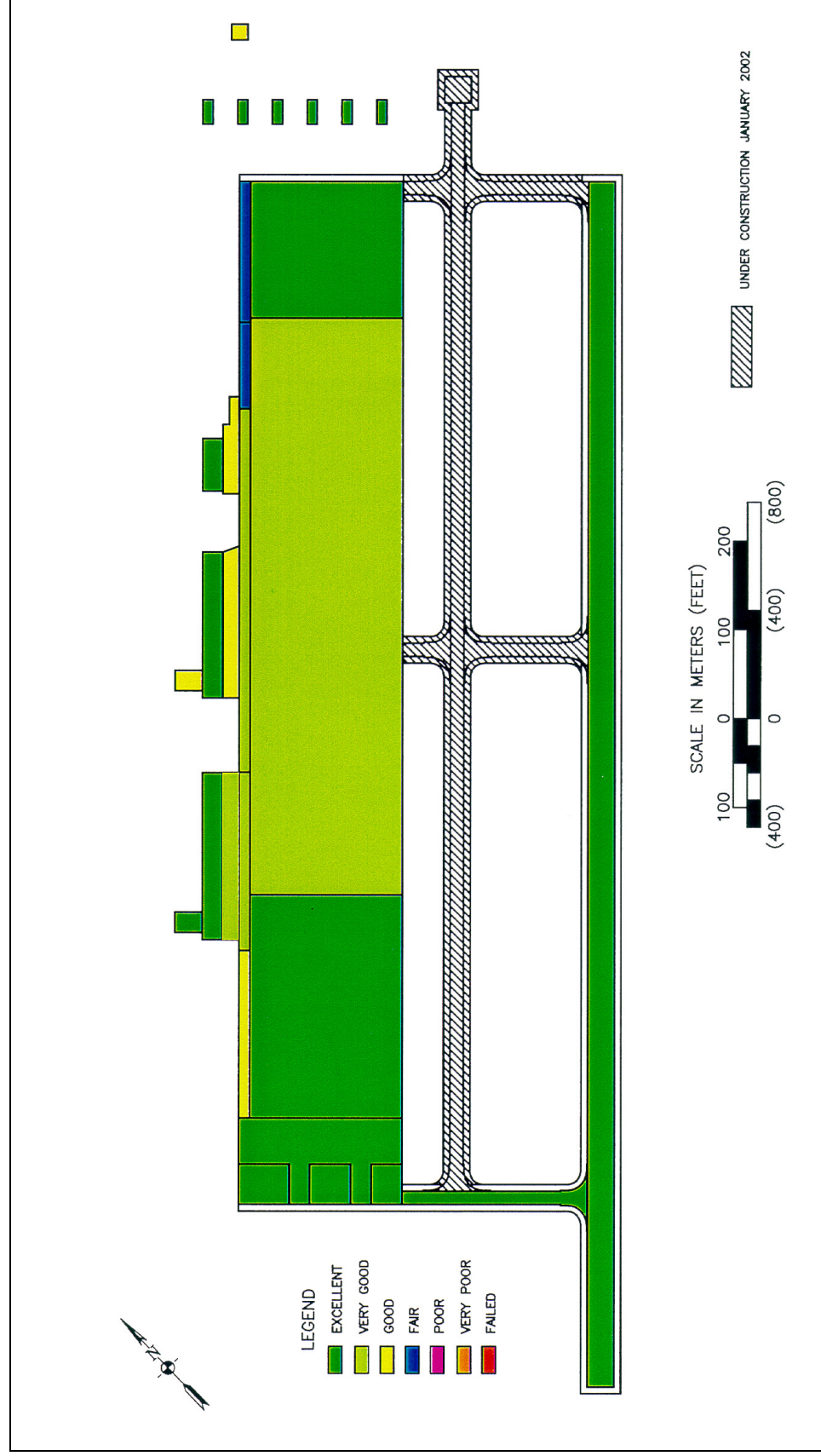


Figure 11. Pavement condition rating summary



**Table 1**  
**Construction History**

Pavement Facility (Feature)	Surface Pavement		Construction Date	Agency <sup>1</sup>
	Thickness, mm (in.)	Type		
Runway 4-22 R1A, R2C, R3C and R4A	225	PCC	2001	CE
Taxiway A T1A (Under Construction)	225	PCC	2002	CE
Taxiway B T2A	225	PCC	2001	CE
Taxiway C T3A (Under Construction)	225	PCC	2002	CE
Taxiway D T4A (Under Construction)	225	PCC	2002	CE
Perimeter Taxiway T5B, T6B, T7B, T8B, and T9B	305 (12.0) <sup>2</sup>	AC	1974	CE
T6B and T8B	-- <sup>3</sup>	SS	Before 1990 <sup>4</sup>	CE
T6B and T7B	51 (2.0) <sup>5</sup>	AC	1990	CE
Main Apron A4B	178 (7.0)	PCC	1979	CE
A2B, A3B, and A5B	229 (9.0)	PCC	1989	CE
A1B	225	PCC	2001	CE
South Hangar Apron A6B	229 (9.0)	PCC	1989	CE
A7B	305 (12.0) <sup>2</sup>	AC	1989	CE
South Washrack A8B	229 (9.0)	PCC	1989	CE
Middle Hangar Apron A9B	178 (7.0)	PCC	1974	CE
A10B	305 (12.0) <sup>2</sup>	AC	1974	CE
A10B	-- <sup>3</sup>	SS	Before 1990 <sup>4</sup>	CE
	51 (2.0) <sup>5</sup>	AC	1990	CE
North Washrack A11B	178 (7.0)	PCC	1974	CE
North Hangar Apron A12B	178 (7.0)	PCC	1974	CE
A13B	305 (12.0) <sup>2</sup>	AC	1974	CE
A13B	-- <sup>3</sup>	SS	Before 1990 <sup>4</sup>	CE
A13B	51 (2.0) <sup>5</sup>	AC	1990	CE
Refuel Pads 1-6 A14B	152 (6.0)	PCC	1989	CE
Helipad A15B	229 (9.0)	PCC	1989	CE
VFR Helipad A16B (Under Construction)	225	PCC	2002	CE

<sup>1</sup> CE = U.S. Army Corps of Engineers.  
<sup>2</sup> Thickness includes AC, base, and subbase.  
<sup>3</sup> Slurry seal- nominal thickness.  
<sup>4</sup> Exact date unknown.  
<sup>5</sup> Overlay pavement.

Table 2 Summary of Physical Property Data																	
Feature	Facility			Overlay Pavement			Pavement			Base			Subbase			Subgrade	
	Identification	Length m (ft)	Width m (ft)	General Condition PCI	Thickness¹ mm (in.)	Description	Flex. Str.¹ MPa (psi)	Thickness¹ mm (in.)	Description	Flex. Str.¹ MPa (psi)	Thickness¹ mm (in.)	Description	Modulus¹ MPa (psi)	Thickness¹ mm (in.)	Description	Modulus¹ MPa (psi)	Description
R1A	Runway 4-22	305 (1,000)	30 (98.4)	Excellent				225	PCC			225	Open Graded Base (GP)	150	Lime Stabilized Clay (CL)		Silty Clay (CL)
R2C	Runway 4-22	747 (2,450)	15 (50)	Excellent				225	PCC			225	Open Graded Base (GP)	150	Lime Stabilized Clay (CL)		Silty Clay (CL)
R3C	Runway 4-22 (Runway Edges)	797 (2,616)	15 (50)	Excellent				225	PCC			225	Open Graded Base (GP)	150	Lime Stabilized Clay (CL)		Silty Clay (CL)
R4A	Runway 4-22	305 (1,000)	30 (100)	Excellent				225	PCC			225	Open Graded Base (GP)	150	Lime Stabilized Clay (CL)		Silty Clay (CL)
T1A	Taxiway A (Under construction)	1,224 (4,017)	15 (50)					225	PCC			225	Open Graded Base (GP)	150	Lime Stabilized Clay (CL)		Silty Clay (CL)
T2A	Taxiway B	208 (681)	15 (50)	Excellent				225	PCC			225	Open Graded Base (GP)	150	Lime Stabilized Clay (CL)		Silty Clay (CL)
T3C	Taxiway C (Under construction)	193 (632)	15 (50)					225	PCC			225	Open Graded Base (GP)	150	Lime Stabilized Clay (CL)		Silty Clay (CL)
T4A	Taxiway D (Under construction)	193 (632)	15 (50)					225	PCC			225	Open Graded Base (GP)	150	Lime Stabilized Clay (CL)		Silty Clay (CL)
T5B	Perimeter Taxiway	189 (620)	12 (40)	Good				51 (2.0)	AC			152 (6.0)	Crushed Stone (GW)	372 (53,958)	Poorly Graded Sand (SP)	372 (53,958)	Clayey Silt (MH)
T6B	Perimeter Taxiway	200 (655)	12 (40)	Very good	51 (2.0)	AC		51 (2.0)	AC			152 (6.0)	Crushed Stone (GW)	102 (4.0)	Poorly Graded Sand (SP)	56 (8,051)	Silty Clay (CH)
¹ Values from original construction data and/or measurements recorded in previous investigations.																	
																(Sheet 1 of 3)	

Table 2 (Continued)																		
Facility				Overlay Pavement			Pavement			Base			Subbase			Subgrade		
Feature	Identification	Length m (ft)	Width M (ft)	General Condition PCI	Thickness¹ mm (in.)	Description	Flex. Str.¹ MPa (psi)	Thickness¹ mm (in.)	Description	Flex. Str.¹ MPa (psi)	Thickness¹ Mm (in.)	Description	Modulus¹ MPa (psi)	Thickness¹ mm (in.)	Description	Modulus¹ MPa (psi)	Description	Modulus¹ MPa (psi)
T7B	Perimeter Taxiway	404 (1,325)	12 (40)	Very good				51 (2.0)	AC			152 (6.0)	Crushed Stone (GW)	32 (4,670)	102 (4.0)	Poorly Graded Sand (SP)	Lean Clay (CL)	352 (51,072)
T8B	Perimeter Taxiway	99 (325)	12 (40)	Fair				51 (2.0)	AC			152 (6.0)	Crushed Stone (GW)	314 (45,469)	102 (4.0)	Poorly Graded Sand (SP)	Lean Clay (CL)	78 (11,347)
T9B	Perimeter Taxiway	159 (520)	12 (40)	Fair				51 (2.0)	AC			152 (6.0)	Crushed Stone (GW)	460 (66,726)	102 (4.0)	Poorly Graded Sand (SP)	Silty Clay (CH)	
A1B	Main Apron	138 (452)	46 (150)	Excellent				225	PCC			225	Open Graded Base (GP)		150	Lime Stabilized Clay (CL)	Red Clay with chert (CL)	
A2B	Main Apron	Varies	Varies	Excellent				229 (9.0)	PCC	4.1 (600)		165 (6.5)	Poorly Graded Sand (SP)	165 (23,991)			Silty Clay (CL)	165 (23,991)
A3B	Main Apron	252 (825)	171 (560)	Excellent				229 (9.0)	PCC	4.1 (600)		165 (6.5)	Poorly Graded Sand (SP)	170 (24,699)			Silty Clay (CL)	170 (24,699)
A4B	Main Apron	649 (2,130)	171 (560)	Very Good				178 (7.0)	PCC	4.1 (600)		102 (4.0)	Poorly Graded Sand (SP)	145 (21,046)			Silty Clay (CH)	145 (21,046)
A5B	Main Apron	155 (510)	171 (560)	Excellent				229 (9.0)	PCC	4.1 (600)		165 (6.5)	Poorly Graded Sand (SP)	165 (23,898)			Silty Clay (CH)	165 (23,898)
A6B	South Hangar Apron	187 (615)	23 (75)	Excellent				229 (9.0)	PCC	4.1 (600)		165 (6.5)	Poorly Graded Sand (SP)	170 (24,599)			Clayey Inorganic Silt (MH)	170 (24,599)
A7B	South Hangar Apron	187 (615)	18 (60)	Very Good				51 (2.0)	AC			152 (6.0)	Crushed Stone (GW)	653 (94,782)	102 (4.0)	Poorly Graded Sand (SP)	Clayey Inorganic Silt (MH)	87 (12,636)
(Sheet 2 of 3)																		
Values from original construction data and/or measurements recorded in previous investigations.																		

**Table 2 (Concluded)**

Facility				Overlay Pavement			Pavement				Base				Subbase			Subgrade	
Feature	Identification	Length m (ft)	Width M (ft)	General Condition PCI	Thickness <sup>1</sup> mm (in.)	Flex. Str. <sup>1</sup> MPa (psi)	Thickness <sup>1</sup> mm (in.)	Description	Flex. Str. <sup>1</sup> MPa (psi)	Thickness <sup>1</sup> Mm (in.)	Description	Modulus <sup>1</sup> MPa (psi)	Thickness <sup>1</sup> mm (in.)	Description	Modulus <sup>1</sup> MPa (psi)	Description	Modulus <sup>1</sup> MPa (psi)		
A8B	South Washrack	91 (100)	23 (75)	Excellent			229 (9.0)	PCC	4.1 (600)	165 (6.5)	Poorly Graded Sand (SP)	223 (32,410)		Clayey Inorganic Silt (MH)	223 (32,410)				
A9B	Middle Hangar Apron	165 (540)	23 (75)	Excellent			178 (7.0)	PCC	4.1 (600)	102 (4.0)	Crushed Stone (GW)	165 (23,953)		Clayey Inorganic Silt (MH)	165 (23,953)				
A10B	Middle Hangar Apron	168 (551)	18 (60)	Good	51 (2.0)	AC		AC		152 (6.0)	Crushed Stone (GW)	34 (4,903)	102 (4.0)	Poorly Graded Sand (SP)	223 (33,265)	Clayey Inorganic Silt (MH)	223 (33,265)		
A11B	North Washrack	107 (100)	23 (75)	Good			178 (7.0)	PCC	4.1 (600)	102 (4.0)	Crushed Stone (GW)	120 (17,398)		Clayey Inorganic Silt (MH)	120 (17,398)				
A12B	North Hangar Apron	59 (195)	23 (75)	Excellent			229 (9.0)	PCC	4.1 (600)	165 (6.5)	Poorly Graded Sand (SP)	171 (24,839)		Silty Clay (CH)	171 (24,839)				
A13B	North Hangar Apron	110 (360)	Varies	Good	51 (2.0)	AC		AC		152 (6.0)	Crushed Stone (GW)	183 (28,036)	102 (4.0)	Poorly Graded Sand (SP)	35 (5,135)	Silty Clay (CH)	285 (41,300)		
A14B	Refuel Pads 1-6	27 (90) Each	11 (37.5) Each	Excellent			152 (6.0)	PCC	4.1 (600)	102 (4.0)	Poorly Graded Sand (SP)			Silty Clay (CH)					
A15B	Helipad	18 (60)	18 (60)	Good			229 (9.0)	PCC	4.1 (600)	165 (6.5)	Poorly Graded Sand (SP)			Silty Clay (CH)					
A16B	VFR Helipad (Under construction)	30 (98.5)	30 (98.5)				225	PCC		225	Open Graded Base (GP)		150	Lime Stabilized Clay (CL)		Silty Clay (CL)			
(Sheet 3 of 3)																			
†. Values from original construction data and/or measurements recorded in previous investigations.																			

<sup>1</sup> Values from original construction data and/or measurements recorded in previous investigations.

(Sheet 3 of 3)

**Table 3**  
**Pavement Condition Survey Results**

Feature	Sample Unit	Station, m (ft)		PCI	Rating	Overall			
		From	To			PCI	Rating		
Runway 4-22									
R1A <sup>1</sup>	1	0+00	0+19 (0+62)	100	Excellent	100	Excellent		
	2	0+19 (0+62)	0+37 (1+23)	100	Excellent				
	6	0+56 (1+85)	0+75 (2+47)	100	Excellent				
	7	0+37 (1+23)	0+75 (2+47)	100	Excellent				
	8	0+37 (1+23)	0+75 (2+47)	100	Excellent				
	10	0+94 (3+08)	1+13 (3+70)	100	Excellent				
	13	1+13 (3+70)	1+32 (4+32)	100	Excellent				
	15	1+13 (3+70)	1+50 (4+93)	100	Excellent				
	16	1+13 (3+70)	1+50 (4+93)	100	Excellent				
	17	1+50 (4+93)	1+69 (5+55)	100	Excellent				
	19	1+50 (4+93)	1+88 (6+17)	100	Excellent				
	21	1+88 (6+17)	2+07 (6+78)	100	Excellent				
	22	2+07 (6+78)	2+26 (7+40)	100	Excellent				
	24	1+88 (6+17)	2+26 (7+40)	100	Excellent				
	27	2+26 (7+40)	2+63 (8+63)	100	Excellent				
29	2+63 (8+63)	2+82 (9+25)	100	Excellent					
32	2+63 (8+63)	3+01 (9+87)	100	Excellent					
R2C <sup>1</sup> (Center 50ft)	2	3+19 (10+48)	3+38 (11+10)	100	Excellent	100	Excellent		
	4	3+57 (11+72)	3+76 (12+33)	100	Excellent				
	5	3+76 (12+33)	3+95 (12+95)	100	Excellent				
	8	4+32 (14+18)	4+51 (14+80)	100	Excellent				
	10	4+70 (15+42)	4+89 (16+03)	100	Excellent				
	13	5+26 (17+27)	5+45 (17+88)	100	Excellent				
	16	5+83 (19+12)	6+01 (19+73)	100	Excellent				
	17	6+01 (19+73)	6+20 (20+35)	100	Excellent				
	19	6+39 (20+97)	6+58 (21+58)	100	Excellent				
	21	6+77 (22+20)	6+96 (22+82)	100	Excellent				
	23	7+14 (23+43)	7+32 (24+04)	100	Excellent				
	26	7+71 (25+28)	7+89 (25+90)	100	Excellent				
	27	7+89 (25+90)	8+08 (26+52)	100	Excellent				
	29	8+27 (27+13)	8+46 (27+74)	100	Excellent				
	32	8+83 (28+98)	9+02 (29+60)	100	Excellent				
	34	9+21 (30+21)	9+40 (30+83)	100	Excellent				
	39	10+15 (33+29)	10+34 (33+91)	100	Excellent				
R3C <sup>1</sup> (25 ft edges)	4	3+38 (11+10)	3+76 (12+33)	100	Excellent	100	Excellent		
	5	3+76 (12+33)	4+14 (13+57)	100	Excellent				
	7	4+14 (13+57)	4+51 (14+80)	100	Excellent				
	8	4+14 (13+57)	4+51 (14+80)	100	Excellent				
	11	4+89 (16+03)	5+26 (17+27)	100	Excellent				
	14	5+26 (17+27)	5+64 (18+50)	100	Excellent				
	15	5+64 (18+50)	6+01 (19+73)	100	Excellent				
	16	5+64 (18+50)	6+01 (19+73)	100	Excellent				
	20	6+39 (20+97)	6+77 (22+20)	100	Excellent				
	21	6+77 (22+20)	7+14 (23+43)	100	Excellent				
	24	7+14 (23+43)	7+52 (24+67)	100	Excellent				
	26	7+52 (24+67)	7+89 (25+90)	100	Excellent				
	27	7+89 (25+90)	8+27 (27+13)	100	Excellent				
	30	8+27 (27+13)	8+64 (28+36)	100	Excellent				
	31	8+64 (28+36)	9+02 (29+60)	100	Excellent				
	36	9+40 (30+83)	9+77 (32+06)	100	Excellent				
	37	9+77 (32+06)	10+15 (33+30)	100	Excellent				
	40	10+15 (33+30)	10+52 (34+53)	100	Excellent				

(Sheet 1 of 5)

<sup>1</sup> See Figure 5 for sample unit layout.

Feature	Sample Unit	Station, m (ft)		PCI	Rating	Overall	
		From	To			PCI	Rating
Runway 4-22 (continued)							
R4A <sup>1</sup>	2	10+71 (35+15)	10+90 (35+76)	100	Excellent	100	Excellent
	3	10+52 (34+53)	10+90 (35+76)	100	Excellent		
	5	10+90 (35+76)	11+09 (36+38)	100	Excellent		
	7	10+90 (35+76)	11+28 (37+00)	100	Excellent		
	8	10+90 (35+76)	11+28 (37+00)	100	Excellent		
	9	11+28 (37+00)	11+46 (37+61)	100	Excellent		
	12	11+28 (37+00)	11+65 (38+23)	100	Excellent		
	13	11+65 (38+23)	11+84 (38+85)	100	Excellent		
	15	11+65 (38+23)	12+03 (39+46)	100	Excellent		
	17	12+03 (39+46)	12+22 (40+08)	100	Excellent		
	18	12+22 (40+08)	12+41 (40+70)	100	Excellent		
	20	12+03 (39+46)	12+41 (40+70)	100	Excellent		
	23	12+41 (40+70)	12+78 (41+93)	100	Excellent		
	25	12+78 (41+93)	12+96 (42+53)	100	Excellent		
	28	12+78 (41+93)	13+15 (43+15)	100	Excellent		
29	13+15 (43+15)	13+33 (43+76)	100	Excellent			
31	12+78 (41+93)	13+56 (44+50)	100	Excellent			
Taxiway B							
T2A <sup>2</sup>	2	0+19 (0+62)	0+37 (1+23)	100	Excellent	100	Excellent
	3	0+37 (1+23)	0+56 (1+84)	100	Excellent		
	5	0+75 (2+46)	0+94 (3+07)	100	Excellent		
	6	0+94 (3+07)	1+12 (3+69)	100	Excellent		
	8	1+31 (4+30)	1+50 (4+92)	100	Excellent		
	9	1+50 (4+92)	1+69 (5+53)	100	Excellent		
	11	1+87 (6+15)	2+08 (6+81)	100	Excellent		
Perimeter Taxiway							
T5B <sup>2</sup>	1	0+00	0+30 (1+00)	47	Fair	40	Good
	2	0+30 (1+00)	0+61 (2+00)	77	Very Good		
	3	0+61 (2+00)	0+91 (3+00)	72	Very Good		
	5	1+22 (4+00)	1+52 (5+00)	78	Very Good		
	6	1+52 (5+00)	1+83 (6+00)	78	Very Good		
T6B <sup>2</sup>	8	2+13 (7+00)	2+44 (8+00)	83	Very Good	84	Very Good
	9	2+44 (8+00)	2+74 (9+00)	85	Very Good		
	10	2+74 (9+00)	3+05 (10+00)	81	Very Good		
	11	3+05 (10+00)	3+35 (11+00)	86	Very Good		
	12	3+35 (11+00)	3+66 (12+00)	83	Very Good		
T7B <sup>2</sup>	14	3+96 (13+00)	4+27 (14+00)	93	Excellent	81	Very Good
	15	4+27 (14+00)	4+57 (15+00)	78	Very Good		
	16	4+57 (15+00)	4+88 (16+00)	68	Good		
	18	5+18 (17+00)	5+49 (18+00)	88	Very Good		
	20	5+79 (19+00)	6+10 (20+00)	74	Very Good		
	23	6+71 (22+00)	7+32 (23+00)	84	Very Good		
	25	7+32 (24+00)	7+32 (24+00)	81	Very Good		
T8B <sup>2</sup>	27	7+92 (26+00)	8+23 (27+00)	35	Poor	48	Fair
	28	8+23 (27+00)	8+53 (28+00)	66	Good		
	29	8+53 (28+00)	8+84 (29+00)	44	Fair		
T9B <sup>2</sup>	31	9+14 (30+00)	9+14 (31+00)	65	Good	57	Good
	32	9+45 (31+00)	9+45 (32+00)	59	Good		
	33	9+75 (32+00)	10+05 (33+00)	59	Good		
	34	10+05 (33+00)	10+36 (34+00)	44	Fair		
(Sheet 2 of 5)							
<sup>1</sup> See Figure 5 for sample unit layout.							
<sup>2</sup> See Figure 6 for sample unit layout.							

<sup>2</sup> See Figure 6 for sample unit layout.

Table 3 (Continued)

Feature	Sample Unit	Station, m (ft)		PCI	Rating	Overall				
		From	To			PCI	Rating			
Main Apron										
A1B <sup>3</sup>	1	--	--	100	Excellent	100	Excellent			
	3	--	--	100	Excellent					
	5	--	--	100	Excellent					
	6	--	--	100	Excellent					
	7	--	--	100	Excellent					
	8	--	--	100	Excellent					
A2B <sup>3</sup>	1	--	--	73	Very Good	86	Excellent			
	3	--	--	78	Very Good					
	4	--	--	62	Good					
	5	--	--	72	Very Good					
	6	--	--	95	Excellent					
	7	--	--	92	Excellent					
	9	--	--	96	Excellent					
	10	--	--	99	Excellent					
	12	--	--	100	Excellent					
	13	--	--	83	Very Good					
	14	--	--	97	Excellent					
	16	--	--	86	Excellent					
	A3B <sup>3</sup>	3	--	--	91			Excellent	95	Excellent
		8	--	--	84			Very Good		
13		--	--	96	Excellent					
18		--	--	98	Excellent					
22		--	--	98	Excellent					
25		--	--	88	Excellent					
29		--	--	96	Excellent					
35		--	--	91	Excellent					
39		--	--	96	Excellent					
43		--	--	98	Excellent					
48		--	--	96	Excellent					
52		--	--	98	Excellent					
56		--	--	98	Excellent					
62		--	--	98	Excellent					
65		--	--	96	Excellent					
74		--	--	98	Excellent					
76		--	--	98	Excellent					
83		--	--	98	Excellent					
86		--	--	98	Excellent					
88		--	--	98	Excellent					
92		--	--	96	Excellent					
97		--	--	96	Excellent					
99	--	--	98	Excellent						
101	--	--	96	Excellent						
104	--	--	98	Excellent						
108	--	--	98	Excellent						
110	--	--	94	Excellent						
116	--	--	77	Very Good						
A4B <sup>4</sup>	1	--	--	85	Very Good	81	Very Good			
	8	--	--	88	Excellent					
	12	--	--	84	Very Good					
	25	--	--	79	Very Good					
	36	--	--	86	Excellent					
	45	--	--	80	Very Good					
	49	--	--	89	Excellent					
	59	--	--	67	Good					
	76	--	--	76	Very Good					
	82	--	--	83	Very Good					

(Sheet 3 of 5)

<sup>3</sup> See Figure 7 for sample unit layout.

<sup>4</sup> See Figure 8 for sample unit layout.

Table 3 (Continued)

Feature	Sample Unit	Station, m (ft)		PCI	Rating	Overall	
		From	To			PCI	Rating
Main Apron (Concluded)							
A4B <sup>4</sup> (Con't)	86	--	--	83	Very Good		
	99	--	--	72	Very Good		
	106	--	--	91	Excellent		
	113	--	--	91	Excellent		
	124	--	--	78	Very Good		
	136	--	--	85	Very Good		
	156	--	--	37	Poor		
	161	--	--	93	Excellent		
	166	--	--	78	Very Good		
	181	--	--	91	Excellent		
	184	--	--	87	Excellent		
	198	--	--	87	Excellent		
	201	--	--	84	Very Good		
	212	--	--	71	Very Good		
	215	--	--	93	Excellent		
	232	--	--	39	Poor		
	241	--	--	82	Very Good		
	247	--	--	79	Very Good		
	265	--	--	91	Excellent		
	270	--	--	93	Excellent		
300	--	--	82	Very Good			
306	--	--	85	Very Good			
A5B <sup>5</sup>	2	--	--	94	Excellent	95	Excellent
	4	--	--	92	Excellent		
	7	--	--	95	Excellent		
	10	--	--	96	Excellent		
	12	--	--	100	Excellent		
	14	--	--	89	Excellent		
	17	--	--	73	Very Good		
	20	--	--	98	Excellent		
	24	--	--	98	Excellent		
	27	--	--	100	Excellent		
	29	--	--	96	Excellent		
	32	--	--	98	Excellent		
	35	--	--	100	Excellent		
	38	--	--	95	Excellent		
	40	--	--	97	Excellent		
	43	--	--	98	Excellent		
	46	--	--	100	Excellent		
	51	--	--	98	Excellent		
	55	--	--	98	Excellent		
	60	--	--	98	Excellent		
64	--	--	100	Excellent			
66	--	--	100	Excellent			
70	--	--	96	Excellent			
73	--	--	100	Excellent			
76	--	--	68	Good			
South Hangar Apron							
A6B <sup>6</sup>	2	--	--	100	Excellent	91	Excellent
	3	--	--	81	Very Good		
	4	--	--	84	Very Good		
	5	--	--	96	Excellent		

(Sheet 4 of 5)

<sup>4</sup> See Figure 8 for sample unit layout.

<sup>5</sup> See Figure 9 for sample unit layout.

<sup>6</sup> See Figure 10 for sample unit layout.



**Table 3 (Concluded)**

Feature	Sample Unit	Station, m (ft)		PCI	Rating	Overall	
		From	To			PCI	Rating
South Hangar Apron (Concluded)							
A6B <sup>6</sup> (Con't)	6	--	--	99	Excellent		
	7	--	--	98	Excellent		
	8	--	--	83	Very Good		
	9	--	--	86	Excellent		
South Hangar Apron							
A7B <sup>6</sup>	1	--	--	80	Very Good	81	Very Good
	2	--	--	84	Very Good		
	3	--	--	81	Very Good		
	4	--	--	81	Very Good		
	9	--	--	79	Very Good		
South Washrack							
A8B <sup>6</sup>	1	--	--	100	Excellent	93	Excellent
	2	--	--	86	Excellent		
Middle Hangar Apron							
A9B <sup>6</sup>	2	--	--	93	Excellent	90	Excellent
	3	--	--	90	Excellent		
	4	--	--	89	Excellent		
	5	--	--	93	Excellent		
	6	--	--	89	Excellent		
	7	--	--	91	Excellent		
	9	--	--	86	Excellent		
A10B <sup>6</sup>	1	--	--	64	Good	61	Good
	2	--	--	69	Good		
	3	--	--	63	Good		
	4	--	--	56	Good		
	5	--	--	54	Fair		
North Washrack							
A11B <sup>6</sup>	1	--	--	57	Good	57	Good
North Hangar Apron							
A12B <sup>6</sup>	1	--	--	100	Excellent	99	Excellent
	2	--	--	100	Excellent		
	3	--	--	96	Excellent		
A13B <sup>6</sup>	1	--	--	62	Good	68	Good
	2	--	--	63	Good		
	3	--	--	79	Very Good		
Refuel Pads 1-6							
A14B <sup>5</sup>	1	--	--	87	Excellent	93	Excellent
	2	--	--	95	Excellent		
	3	--	--	93	Excellent		
	4	--	--	95	Excellent		
	5	--	--	86	Excellent		
	6	--	--	100	Excellent		
Helipad							
A15B <sup>5</sup>	1	--	--	70	Good	70	Good

(Sheet 5 of 5)

<sup>5</sup> See Figure 9 for sample unit layout.

<sup>6</sup> See Figure 10 for sample unit layout.

**Table 4**  
**Comparison of 1996 and 2001 PCI Surveys**

Feature	1996 PCI	1996 Rating	2001 PCI	2001 Rating	Change in PCI From 1996 to 2001 (+ or -)	Pavement Type
<b>Runways</b>						
R1A	--	--	100 <sup>1</sup>	Excellent	--	PCC
R2A	--	--	100 <sup>1</sup>	Excellent	--	PCC
R3C	--	--	100 <sup>1</sup>	Excellent	--	PCC
R4C	--	--	100 <sup>1</sup>	Excellent	--	PCC
<b>Taxiways</b>						
T1A	Under Construction					PCC
T2A	--	--	100 <sup>1</sup>	Excellent	--	PCC
T3A	Under Construction					PCC
T4A	Under Construction					PCC
T5B	77		70	Good	+7	AC
T6B	64		84	Very Good	+20	AC
T7B	94		81	Very Good	-7	AC
T8B	49		48	Fair	-1	AC
T9B	66		57	Good	-12	AC
<b>Aprons</b>						
A1B	--	--	100 <sup>1</sup>	Excellent	--	PCC
A2B	88		86	Excellent	-2	PCC
A3B	92		95	Excellent	+3	PCC
A4B	79		81	Very Good	+2	PCC
A5B	90		95	Excellent	+5	PCC
A6B	87		91	Excellent	+4	PCC
A7B	64		81	Very Good	+17	AC
A8B	87		93	Excellent	+6	PCC
A9B	86		90	Excellent	+4	PCC
A10B	52		61	Good	+9	AC
A11B	43		57	Good	+6	AC
A12B	90		99	Excellent	+9	PCC
A13B	65		68	Good	+3	PCC
A14B	91		93	Excellent	+2	PCC
A15B	93		70	Good	-13	PCC
A16B	Under Construction					PCC

<sup>1</sup> Constructed in 2001.

Table 5 Maintenance, Repair, and Major Repair Alternatives for Airfield Pavements, Flexible																				
Distress Type		Maintenance					Repair										Major Repair			
		Seal Minor Cracks	Repair Pot- Holes	Partial- Depth Patching	Apply Rejuvena- tors <sup>1</sup>	Seal Major Cracks	Full- Depth Patching	Micro- Surfacing	Slurry Seal <sup>2</sup>	Thin AC Overlays <sup>3</sup>	Surface Milling	Grooving	Porous Friction Course	Repair Drainage Facilities <sup>4</sup>	Surface Recycling	AC Structural Overlay <sup>3</sup>	PCC Structural Overlay	Remove Existing Surface and Reconstruct	Hot Recycle	Cold Recycle
Alligator cracking		L	M,H	M			M,H	L	L					L,M,H		M,H	M,H	H		
Bleeding															A			A	A	
Block cracking		L,M			L	M,H		L							M	M,H			M,H	M,H
Corrugation				L,M			L,M,H	L,M		M,H								M,H		
Depression				L,M,H			M,H	L		M,H				L,M,H				H		
Jet blast					A		A	A		A										
Reflection cracking		L,M				M,H		L,M	L							M,H			H	
Longitudinal and transverse cracking		L,M				M,H		L,M	L							M,H			H	
Oil spillage				A			A			A					A			A	A	
Patching		L,M		M		M	M,H									M,H		H	H	
Polished aggregate								A	A	A	A	A			A					
Raveling/weathering			M,H		L,M		M	L,M	L	M,H	M				M,H		H	H	M,H	
Rutting				L,M			L,M,H	L						L,M,H		M,H	H	H	M,H	
Shoving				L			L,M			L,M								M,H	M,H	
Slippage cracking		A		A		A	A									A		A	A	
Swell				L,M			M,H			L,M				L,M,H				H		
<b>Note:</b> L = low severity level; M = medium severity level; H = high severity level; A = no severity levels for this distress.																				
<sup>1</sup> Not to be used on high speed areas due to increased skid potential.																				
<sup>2</sup> Not to be used on heavy traffic areas.																				
<sup>3</sup> Patch distressed areas prior to overlay.																				
<sup>4</sup> Drainage facilities to be repaired as needed.																				

Note: L = low severity level; M = medium severity level; H = high severity level; A = no severity levels for this distress.

<sup>1</sup> Not to be used on high speed areas due to increased skid potential.

<sup>2</sup> Not to be used on heavy traffic areas.

<sup>3</sup> Patch distressed areas prior to overlay.

<sup>4</sup> Drainage facilities to be repaired as needed.



**Table 7**  
**Airfield Pavements M&R Cost Estimating Guide**

Item	Description	U/M	Unit Cost (\$)					
			FY00	FY01	FY02	FY03	FY04	FY05
1	Remove/replace 10 in. PCC w/14 in. PCC including 6 in. base	SY	71.32	73.10	74.92	76.80	78.71	80.68
2	PCC Construction	SY-IN	3.64	3.73	3.87	3.92	4.02	4.12
3	Remove/replace 6 in. Bituminous Pavement w/14 in. PCC including 6 in. base	SY	65.38	67.01	68.69	70.41	72.17	73.97
4	Asphalt Concrete Overlay							
	-- Airfield Mix	TONS	50.34	51.60	52.89	54.21	55.57	56.95
		SY-IN	2.14	2.20	2.27	2.33	2.40	2.48
	-- Highway Mix	TONS	46.36	47.52	48.71	49.92	51.17	52.45
		SY-IN	2.52	2.58	2.65	2.71	2.78	2.85
5	Joint Resealing (JFR)	LF	2.14	2.19	2.25	2.30	2.36	2.42
6	Joint Resealing (NON - JFR)	LF	1.90	1.95	2.00	2.05	2.10	2.15
7	Crack Routing/Sealing (PCC)	LF	2.63	2.70	2.76	2.83	2.90	2.97
8	Neoprene Compression Joint Seal							
	-- Saw Cutting Only	LF	1.33	1.36	1.40	1.43	1.47	1.50
	-- Lubrication, Furnish and Install Compression Seal							
	-- 1/2-in. wide joint	LF	3.30	3.38	3.47	3.55	3.64	3.73
	-- 5/8-in. wide joint	LF	3.66	3.75	3.85	3.94	4.04	4.14
	-- 3/4-in. wide joint	LF	4.49	4.60	4.72	4.84	4.96	5.09
9	Spall Repairs (Epoxy-Bonded PCC)	SF	25.30	25.93	26.58	27.25	27.93	28.63
10	PCC Pavement Removal (To Base Course) T < 12 in.	SY-IN	1.01	1.04	1.06	1.09	1.12	1.15
11	PCC Pavement Removal (To Base Course) T > 12 in.	SY-IN	1.39	1.46	1.50	1.53	1.57	1.61
12	Asphalt Pavement Removal (to base course)	SY-IN	0.92	0.94	0.97	0.99	1.01	1.04
13	Base/Subgrade Removal	SY-IN	0.61	0.63	0.64	0.66	0.66	0.69
14	Asphalt Milling/Profiling/Grinding (Cold)							
	-- up to 1-in. depth	SY	1.56	1.60	1.64	1.68	1.72	1.77
	-- up to 2-in. depth	SY	2.26	2.32	2.37	2.43	2.49	2.55
	-- up to 3-in. depth	SY	2.38	2.44	2.50	2.56	2.62	2.69
	-- up to 4-in. depth	SY	2.50	2.56	2.63	2.69	2.76	2.83
	-- small difficult jobs (hard agg. etc.)	SY-IN	2.97	3.04	3.12	3.20	3.28	3.36
15	PC Concrete Grinding/Profiling (Normally 1/2 in. is max Feasible)	SY-IN	19.02	19.50	19.98	20.48	20.99	21.52
16	Heater-Scarification (3/4—in.) – rejuvenation	SY	1.32	1.35	1.39	1.42	1.46	1.49
17	Cold Recycling 6 in. AC with 4-in.-thick AC O/L	SY	17.46	17.90	18.34	18.80	19.27	19.75
18	Slurry Seal	SY	1.57	1.61	1.65	1.69	1.73	1.78

(Continued)

**Table 7 (Concluded)**

Item	Description	U/M	Unit Cost (\$)					
			FY00	FY01	FY02	FY03	FY04	FY05
19	Micro-Surfacing	SY	2.26	2.32	2.37	2.43	2.49	2.55
20	Single Bituminous Surface Treatment	SY	1.90	1.95	2.00	2.05	2.10	2.15
21	Double Bituminous Surface Treatment	SY	2.75	2.82	2.89	2.96	3.03	3.11
22	Rubberized Coal Tar Pitch Emulsion Sand Slurry Surface Treatment	SY	1.72	1.76	1.81	1.85	1.90	1.94
23	Rubberized Coal Tar Pitch Emulsion (No Aggregate)	SY	1.13	1.16	1.19	1.22	1.25	1.28
24	Fog Seal	SY	0.77	0.79	0.81	0.83	0.85	0.87
25	Rubberized Asphalt Systems							
	-- Stress Absorbing Membrane (SAM) Interlayer	SY	4.40	4.51	4.62	4.74	4.86	4.98
	-- SAM Seal Coat (uncoated chips)	SY	4.64	4.76	4.87	5.00	5.13	5.25
	-- SAM Seal Coat (precoated chips)	SY	4.99	5.11	5.24	5.37	5.50	5.64
26	Reinforcing Fabric Membranes (including tack coat)	SY	2.47	2.53	2.60	2.66	2.73	2.79
27	Elastomeric Inlay installed in Existing PCC, Complete (2 ft Wide X 100 ft Long X 2 in. Deep)	EA	25.0K	25.6K	26.3K	26.9K	27.6K	28.3K
28	PC Concrete Inlay (20 ft X 120 ft X 12 in. in Asphalt Pavement)	EA	17.8K	18.2K	18.7K	19.2K	19.7K	20.2K
29	Runway Grooving							
	-- Asphalt Concrete Pavement	SY	1.90	1.95	2.00	2.05	2.10	2.15
	-- Portland Concrete Pavement	SY	4.16	4.26	4.37	4.48	4.59	4.71
30	Runway Rubber Removal (High Pressure Water Blasting Method)	SF	0.059	0.060	0.062	0.063	0.065	0.066
31	Paint Removal							
	-- Partial Removal (Remove only loose, flaking, or poorly bonded paint)	SF	0.059	0.060	0.062	0.063	0.065	0.066
	-- Complete Removal (Using High Pressure water with sand injection)	SF	0.69	0.70	0.72	0.74	0.76	0.78
32	Airfield Marking							
	-- Reflectorized	SF	0.46	0.47	0.48	0.50	0.51	0.53
	-- Non-Reflectorized	SF	0.26	0.27	0.27	0.28	0.29	0.29
33	Street Marking							
	-- Reflectorized	SF	0.33	0.34	0.35	0.36	0.37	0.38
	-- Non-Reflectorized	SF	0.21	0.22	0.22	0.23	0.24	0.24
34	Random Slab Replacement							
	-- 12 ft by 12 ft by 12-in. thick	EA	1.2K	1.2K	1.3K	1.3K	1.3K	1.4K
	-- 25 ft by 25 ft by 12-in. thick	EA	4.8K	4.9K	5.0K	5.2K	5.3K	5.5K
	-- 25 ft by 25 ft by 18-in. thick	EA	7.1K	7.3K	7.5K	7.6K	7.8K	8.0K
	-- 25 ft by 25 ft slab	SY-IN	5.56	5.70	5.84	5.99	6.14	6.29
35	Soil Cement Stabilization (10 percent by weight)	SY-IN	0.50	0.51	0.53	0.54	0.55	0.57

**Table 8**  
**Summary of Maintenance Requirements<sup>1</sup>**

Feature	AreaSq m (sq yd)	Maintenance and Repair Alternatives for Existing Surfaces
<b>Runway 4-22</b>		
R1A <sup>2</sup>	9145 (10,936)	None
R2C <sup>2</sup>	11 202 (13,396)	None
R3C <sup>2</sup>	11 202 (13,396)	None
R4A <sup>2</sup>	9145 (10,936)	None
<b>Taxiway A</b>		
T1A	18 367 (21,965)	Under Construction
<b>Taxiway B</b>		
T2A	3115 (3,725)	None
<b>Taxiway C</b>		
T3C	2889 (3,455)	Under Construction
<b>Taxiway D</b>		
T4A	2889 (3,455)	Under Construction
<b>Perimeter Taxiway</b>		
T5B	2304 (2,756)	The PCI of this feature is above that required for taxiways. However, it is recommended that all cracks be cleaned and sealed with a high-quality crack sealant <sup>2</sup> , and repair the areas of shoving with a full depth patch (see the PCASE on-line FACT SHEET web site for product guidance).
T6B	2434 (2,911)	The PCI of this feature is above that required for taxiways. However, it is recommended that all cracks be cleaned and sealed with a high-quality crack sealant <sup>2</sup> , repair the alligator cracking and shoving areas with a full depth patch.
T7B	4999 (5,978)	The PCI of this feature is above that required for taxiways. However, it is recommended that all cracks be cleaned and sealed with a high-quality crack sealant <sup>2</sup> (see the PCASE on-line FACT SHEET web site for product guidance).
T8B	1208 (1,444)	Increase the PCI to an acceptable level by cleaning entire surface and then sealing the medium- and high-severity cracks with a high-quality crack sealant <sup>3</sup> . Because of the weathering/raveling, it is suggested that the entire surface be sealed with an approved bituminous pavement sealer (see the PCASE on-line FACT SHEET web site for product guidance).
T9B	1933 (2,311)	Increase the PCI to an acceptable level by cleaning the entire surface and then sealing the low - and medium-severity cracks with a high-quality crack sealant <sup>3</sup> and repair the areas of shoving with a full depth patch (see the PCASE on-line FACT SHEET web site for product guidance).
<b>(Sheet 1 of 3)</b>		
<sup>1</sup> For planning purposes only.		
<sup>2</sup> See TM 5-882-11/AFP 88-6, Chapter 7 (Headquarters, Departments of the Army and Air Force 1993) for guidance.		

<b>Table 8 (Continued)</b>		
<b>Feature</b>	<b>AreaSq m (sq yd)</b>	<b>Maintenance and Repair Alternatives for Existing Surfaces</b>
<b>Main Apron</b>		
A1B	6299 (7,533)	None
A2B	11 539 (13,800)	The PCI of this feature is above that required for aprons. However, it is recommended that all low- and medium-severity cracks be cleaned and sealed with a high-quality sealer <sup>3</sup> , and repair all low- medium- and high-severity spalls with an epoxy concrete patch or full-depth patching (see the PCASE on-line FACT SHEET web site for product guidance).
A3B	42 924 (51,333)	The PCI of this feature is above that required for aprons. However, it is recommended that all medium- and high-severity spalls be repaired with an epoxy concrete patch or full-depth patching.
A4B	110 822 (132,533)	The PCI of this feature is above that required for aprons. However, it is recommended that all medium-severity cracks be cleaned and sealed with a high-quality sealer <sup>2</sup> , repair all medium- and high-severity spalls and durability cracking with an epoxy concrete patch or full-depth patching, and remove and replace the joint sealant with a high-quality sealer <sup>2</sup> (see the PCASE on-line FACT SHEET web site for product guidance).
A5B	26 534 (31,733)	The PCI of this feature is above that required for aprons. However, it is recommended that all low- and medium-severity cracks be cleaned and sealed with a high-quality sealer <sup>2</sup> , and repair all low- and medium- severity spalls with an epoxy concrete patch or full-depth patching (see the PCASE on-line FACT SHEET web site for product guidance).
<b>South Hangar Apron</b>		
A6B	4285 (5,125)	Same as for A5B.
A7B	3428 (4,100)	The PCI of this feature is above that required for aprons. However, it is recommended that all cracks are cleaned and sealed with a high-quality crack sealant <sup>2</sup> (see the PCASE on-line FACT SHEET web site for product guidance).
<b>South Washrack</b>		
A8B	697 (833)	None.
<b>Middle Hangar Apron</b>		
A9B	3763 (4,500)	The PCI of this feature is above that required for aprons. However, it is recommended that all low- and medium-severity spalls be repaired with an epoxy concrete patch or full-depth patching, and remove and replace the joint sealant with a high-quality sealer <sup>2</sup> (see the PCASE on-line FACT SHEET web site for product guidance).
A10B	3072 (3,673)	The PCI of this feature is above that required for aprons. However, it is recommended that all cracks be cleaned and sealed with a high-quality crack sealant <sup>2</sup> , and repair low-severity depressions with a partial depth patch (see the PCASE on-line FACT SHEET web site for product guidance).
<b>North Washrack</b>		
A11B	697 (833)	The PCI of this feature is above that required for aprons. However, it is recommended that all low- and medium-severity cracks be cleaned and sealed with a high-quality sealer <sup>2</sup> and remove and replace the joint sealant with a high-quality sealer <sup>2</sup> (see the PCASE on-line FACT SHEET web site for product guidance).
<b>(Sheet 2 of 3)</b>		
<sup>1</sup> For planning purposes only.		
<sup>2</sup> See TM 5-882-11/AFP 88-6, Chapter 7 (Headquarters, Departments of the Army and Air Force 1993) for guidance.		



<b>Table 8 (Concluded)</b>		
<b>Feature</b>	<b>AreaSq m (sq yd)</b>	<b>Maintenance and Repair Alternatives for Existing Surfaces</b>
<b>North Hangar Apron</b>		
A12B	1359 (1,625)	None
A13B	1768 (2,114)	The PCI of this feature is above that required for aprons. However, it is recommended that all cracks be cleaned and sealed with a high-quality crack sealant <sup>2</sup> and repair low-severity depressions with a partial depth patch (see the PCASE on-line FACT SHEET web site for product guidance).
<b>Refuel Pads 1-6</b>		
A14B	1881 (2,250)	The PCI of this feature is above that required for aprons. However, it is recommended that all cracks be cleaned and sealed with a high-quality sealer <sup>2</sup> and repair all low- and medium- severity spalls with an epoxy concrete patch or full-depth patching (see the PCASE on-line FACT SHEET web site for product guidance).
<b>Helipad</b>		
A15B	334 (400)	The PCI of this feature is above that required for aprons. However, it is recommended that all medium- and high-severity spalls be repaired with an epoxy concrete patch or full-depth patching.
<b>VFR Helipad</b>		
A16B	900 (1,076)	Under Construction
<b>(Sheet 3 of 3)</b>		
<sup>1</sup> For planning purposes only. <sup>2</sup> See TM 5-882-11/AFP 88-6, Chapter 7 (Headquarters, Departments of the Army and Air Force 1993) for guidance.		



Photo 1. Perimeter Taxiway, Feature T5B, medium-severity shoving



Photo 2. Perimeter Taxiway, Feature T5B, medium-severity longitudinal crack



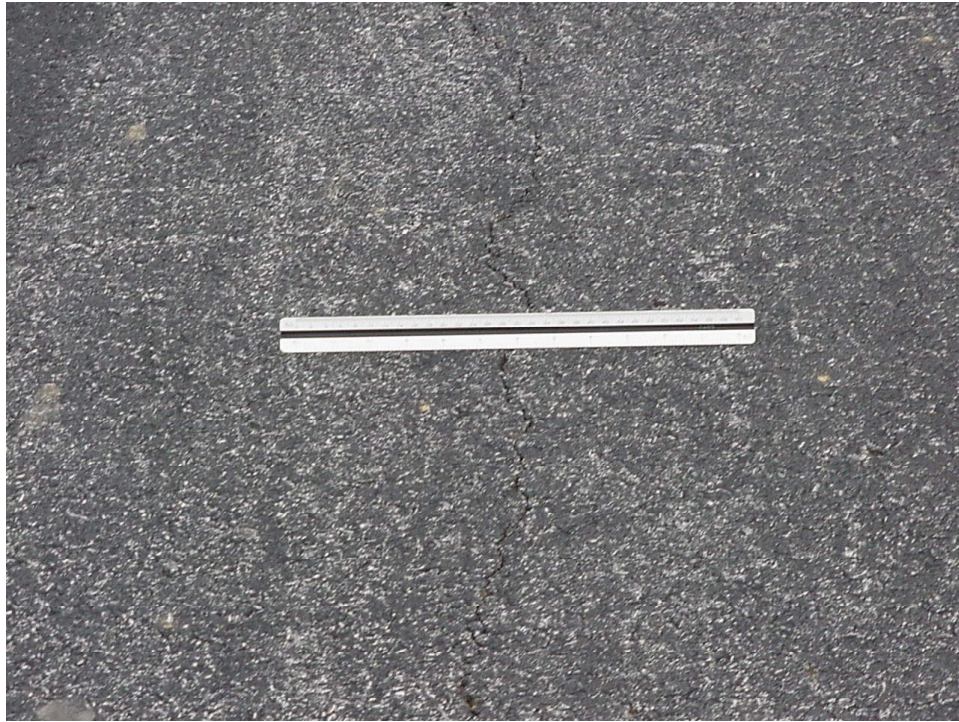


Photo 3. Perimeter Taxiway, Feature T6B, low-severity longitudinal crack



Photo 4. Perimeter Taxiway, Feature T6B, high-severity alligator cracking





Photo 5. Main Apron, Feature A2B, medium-severity corner spall



Photo 6. Main Apron, Feature A4B, medium-severity longitudinal crack



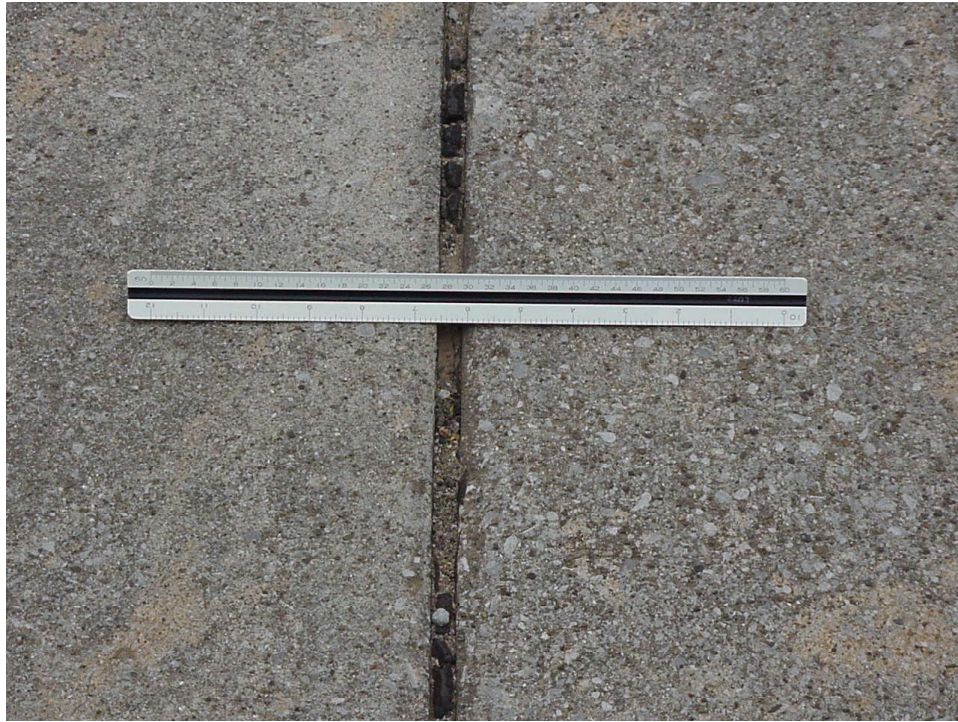


Photo 7. Main Apron, Feature A4B, high-severity joint sealant damage



Photo 8. Main Apron, Feature A5B, medium-severity joint spall



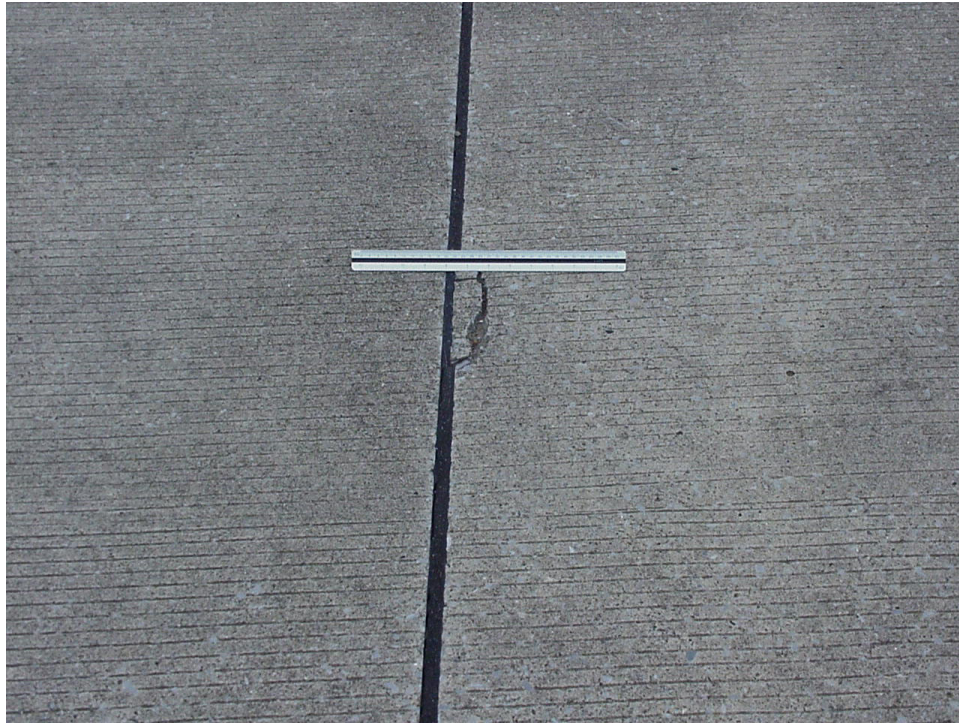


Photo 9. Main Apron, Feature A5B, low-severity joint spall



Photo 10. Middle Hangar Apron, Feature A10B, depression

# **Appendix A**

## **Micro PAVER Output Summary**

---

```

Network ID      - SABRE
Branch Name     - Runway 04-22
Branch Number   - R1A
Section Number  - 1      Family - DEFAULT
Slab Length     - 12.30 LF
Slab Width      - 12.30 LF
Number of Slabs - 650

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:          Drainage Cond.:
Shoulder Cond. :          Overall Cond.:          F.O.D.:
-----

```

```

PCI OF SECTION = 100                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS =      32
NUMBER OF RANDOM SAMPLE UNITS SURVEYED      =      NEW
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED =      0
RECOMMENDED MINIMUM OF      RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 0.0%

```

```

*** EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION ***

```

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
---------------	----------	----------	-----------	--------------

```

*** PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM ***

```

LOAD	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.



```

Network ID      - SABRE
Branch Name     - Runway 04-22
Branch Number   - R2C
Section Number  - 1      Family - DEFAULT
Slab Length    -      12.30 LF
Slab Width     -      12.30 LF
Number of Slabs -      800

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:      Drainage Cond.:
Shoulder Cond. :          Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION = 100                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS = 40
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = NEW
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = .0%

```

```

*** EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION ***

```

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
---------------	----------	----------	-----------	--------------

```

*** PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM ***

```

LOAD	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.

```

Network ID      - SABRE
Branch Name     - Runway 04-22
Branch Number   - R3C
Section Number  - 1      Family - DEFAULT
Slab Length    - 12.30 LF
Slab Width     - 12.30 LF
Number of Slabs - 800

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:      Drainage Cond.:
Shoulder Cond. :      Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION = 100                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS = 40
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = NEW
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = .0%

```

```

*** EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION ***

```

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
---------------	----------	----------	-----------	--------------

```

*** PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM ***

```

LOAD	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.

```

Network ID      - SABRE
Branch Name     - Runway 04-22
Branch Number   - R4A
Section Number  - 1      Family - DEFAULT
Slab Length    - 12.30 LF
Slab Width     - 12.30 LF
Number of Slabs - 325

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:          Drainage Cond.:
Shoulder Cond. :          Overall Cond.:          F.O.D.:
-----

```

```

PCI OF SECTION = 100                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS = 32
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = NEW
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = .0%

```

```

*** EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION ***

```

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
---------------	----------	----------	-----------	--------------

```

*** PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM ***

```

LOAD	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.

```

Network ID      - SABRE
Branch Name     - Taxiway B
Branch Number   - T2A
Section Number  - 1      Family - DEFAULT
Slab Length     -      12.30 LF
Slab Width      -      12.30 LF
Number of Slabs -      221

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:          Drainage Cond.:
Shoulder Cond. :          Overall Cond.:          F.O.D.:
-----

```

```

PCI OF SECTION = 100                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS = 11
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = NEW
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = .0%

```

```

*** EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION ***

```

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
---------------	----------	----------	-----------	--------------

```

*** PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM ***

```

LOAD	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.

```

Network ID      - SABRE
Branch Name     - Perimeter Taxiway      Section Length  -   620.00 LF
Branch Number   - T5B                    Section Width   -    40.00 LF
Section Number  - 1      Family - DEFAULT Section Area   -  24800.00 SF

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:      Drainage Cond.:
Shoulder Cond. :      Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION =   70                                RATING = GOOD

```

```

TOTAL NUMBER OF SAMPLE UNITS =      6
NUMBER OF RANDOM SAMPLE UNITS SURVEYED      =      5
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED =      0
RECOMMENDED MINIMUM OF      5 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 13.7%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
48 L & T CR	LOW	1445.94 (LF)	5.83	16.48
48 L & T CR	MEDIUM	12.39 (LF)	0.10	4.00
54 SHOING	LOW	198.19 (SF)	0.80	22.76
54 SHOING	MEDIUM	1523.60 (SF)	6.14	15.38
54 SHOING	HIGH	74.32 (SF)	0.30	8.56

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

LOAD	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	30.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	70.00 PERCENT DEDUCT VALUES.

```

Network ID      - SABRE
Branch Name     - Perimeter Taxiway      Section Length  -   655.00 LF
Branch Number   - T6B                    Section Width   -    40.00 LF
Section Number  - 1      Family - DEFAULT Section Area   - 268200.00 SF

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :           Safety:      Drainage Cond.:
Shoulder Cond. :      Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION =   84                                RATING = VERY GOOD

```

```

TOTAL NUMBER OF SAMPLE UNITS =           6
NUMBER OF RANDOM SAMPLE UNITS SURVEYED   =           5
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED =           0
RECOMMENDED MINIMUM OF   5 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED =  2.1%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
48 L & T CR	LOW	874.39 (LF)	3.34	10.92
54 SHOving	LOW	490.73 (SF)	1.87	8.97

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

LOAD	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	55.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	45.00 PERCENT DEDUCT VALUES.

```

Network ID      - SABRE
Branch Name     - Perimeter Taxiway      Section Length  - 1345.00 LF
Branch Number   - T7B                    Section Width   - 40.00 LF
Section Number  - 1      Family - DEFAULT Section Area   - 53800.00 SF

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:      Drainage Cond.:
Shoulder Cond. :      Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION = 81                                RATING = VERY GOOD

```

```

TOTAL NUMBER OF SAMPLE UNITS = 13
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 7
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 6 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 8.4%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
41 ALLIGATOR	LOW	276.39 (SF)	0.51	14.68
48 L & T CR	LOW	675.81 (LF)	1.26	5.52
48 L & T CR	MEDIUM	253.45 (LF)	0.47	8.08

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

LOAD	RELATED DISTRESSES =	52.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	48.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.

```

Network ID      - SABRE
Branch Name     - Perimeter Taxiway
Branch Number   - T8B
Section Number  - 1      Family - DEFAULT
Section Length  - 325.00 LF
Section Width   - 40.00 LF
Section Area    - 13000.00 SF

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:          Drainage Cond.:
Shoulder Cond. :          Overall Cond.:          F.O.D.:
-----

```

```

PCI OF SECTION = 48                                RATING = FAIR

```

```

TOTAL NUMBER OF SAMPLE UNITS = 3
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 3
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 3 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 15.83

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
43 BLOCK CR	MEDIUM	2620.00 (SF)	20.16	29.58
48 L & T CR	LOW	196.03 (LF)	1.51	6.13
48 L & T CR	MEDIUM	531.40 (LF)	4.09	23.05
52 WEATH/RAVEL	LOW	4722.30 (SF)	36.33	17.79
52 WEATH/RAVEL	MEDIUM	4722.30 (SF)	36.33	36.68

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

LOAD	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	100.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.



```

Network ID      - SABRE
Branch Name     - Perimeter Taxiway      Section Length  -   520.00 LF
Branch Number   - T9B                    Section Width   -    40.00 LF
Section Number  - 1      Family - DEFAULT Section Area   -  20800.00 SF

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:      Drainage Cond.:
Shoulder Cond. :      Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION =   57                                RATING = GOOD

```

```

TOTAL NUMBER OF SAMPLE UNITS =      5
NUMBER OF RANDOM SAMPLE UNITS SURVEYED      =      4
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED  =      0
RECOMMENDED MINIMUM OF      5 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED =   9.0%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
48 L & T CR	LOW	532.85 (LF)	2.56	8.90
48 L & T CR	MEDIUM	179.26 (LF)	0.86	10.52
54 SHOving	MEDIUM	1186.77 (SF)	5.62	27.93
54 SHOving	HIGH	389.59 (SF)	1.87	30.43

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

LOAD	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	25.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	75.00 PERCENT DEDUCT VALUES.

```

Network ID      - SABRE
Branch Name     - Main Apron           Slab Length    -    12.30 LF
Branch Number   - A1B                 Slab Width     -    12.30 LF
Section Number  - 1      Family - DEFAULT  Number of Slabs -    448

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :           Safety:      Drainage Cond.:
Shoulder Cond. :           Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION = 100                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS =    21
NUMBER OF RANDOM SAMPLE UNITS SURVEYED      = NEW
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED =    0
RECOMMENDED MINIMUM OF          RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED =  0.00%

```

```

*** EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION ***

```

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
---------------	----------	----------	-----------	--------------

```

*** PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM ***

```

LOAD	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.

```

Network ID      - SABRE
Branch Name     - Main Apron           Slab Length    -    20.00 LF
Branch Number   - A2B                 Slab Width     -    20.00 LF
Section Number  - 1      Family - DEFAULT  Number of Slabs -    334

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :           Safety:      Drainage Cond.:
Shoulder Cond. :           Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION = 86                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS = 16
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 12
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 10 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 12.6%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
61 BLOW-UP	LOW	1 (SLABS)	1.00	3.00
62 CORNER BREAK	MEDIUM	4 (SLABS)	1.21	1.59
63 LINEAR CR	LOW	3 (SLABS)	1.00	1.00
63 LINEAR CR	MEDIUM	1 (SLABS)	1.00	1.00
73 SHRINKAGE CR	NA	24 (SLABS)	7.26	1.30
74 JOINT SPALL	LOW	7 (SLABS)	2.02	1.51
74 JOINT SPALL	MEDIUM	13 (SLABS)	4.03	3.79
74 JOINT SPALL	HIGH	4 (SLABS)	1.21	3.83
75 CORNER SPALL	LOW	12 (SLABS)	3.63	1.34
75 CORNER SPALL	MEDIUM	3 (SLABS)	1.00	0.80
75 CORNER SPALL	HIGH	3 (SLABS)	1.00	1.20

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

```

LOAD          RELATED DISTRESSES = 18.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY RELATED DISTRESSES = 15.00 PERCENT DEDUCT VALUES.
OTHER         RELATED DISTRESSES = 67.00 PERCENT DEDUCT VALUES.

```

```

Network ID      - SABRE
Branch Name     - Main Apron
Branch Number   - A3B
Section Number  - 1      Family - DEFAULT
Slab Length     - 15.00 LF
Slab Width      - 12.50 LF
Number of Slabs - 2464

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:          Drainage Cond.:
Shoulder Cond. :          Overall Cond.:          F.O.D.:
-----

```

```

PCI OF SECTION = 95                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS = 121
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 28
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 5 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 5.0%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
65 JT SEAL DMG	LOW	2464 (SLABS)	100.00	2.00
66 SMALL PATCH	MEDIUM	4 (SLABS)	1.00	0.60
67 LARGE PATCH	LOW	8 (SLABS)	1.00	0.75
74 JOINT SPALL	LOW	26 (SLABS)	1.07	0.75
74 JOINT SPALL	MEDIUM	4 (SLABS)	1.00	1.00
74 JOINT SPALL	HIGH	4 (SLABS)	1.00	3.00
75 CORNER SPALL	LOW	75 (SLABS)	3.04	1.15
75 CORNER SPALL	MEDIUM	9 (SLABS)	1.00	0.80
75 CORNER SPALL	HIGH	4 (SLABS)	1.00	1.20

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

```

LOAD          RELATED DISTRESSES = .00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY RELATED DISTRESSES = 18.00 PERCENT DEDUCT VALUES.
OTHER         RELATED DISTRESSES = 82.00 PERCENT DEDUCT VALUES.

```

```

Network ID      - SABRE
Branch Name     - Main Apron
Branch Number   - A4B
Section Number  - 1      Family - DEFAULT
Slab Length     - 15.00 LF
Slab Width      - 12.50 LF
Number of Slabs - 6362

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:          Drainage Cond.:
Shoulder Cond. :          Overall Cond.:          F.O.D.:
-----

```

```

PCI OF SECTION = 81                                RATING = VERY GOOD

```

```

TOTAL NUMBER OF SAMPLE UNITS = 309
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 32
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 24 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 13.0%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
63 LINEAR CR	MEDIUM	10 (SLABS)	1.00	1.00
64 DURABIL CR	LOW	199 (SLABS)	3.13	1.35
64 DURABIL CR	MEDIUM	10 (SLABS)	1.00	1.00
64 DURABIL CR	HIGH	50 (SLABS)	1.00	2.00
65 JT SEAL DMG	LOW	199 (SLABS)	3.13	2.00
65 JT SEAL DMG	MEDIUM	2982 (SLABS)	46.88	7.00
65 JT SEAL DMG	HIGH	3181 (SLABS)	50.00	12.00
67 LARGE PATCH	LOW	8 (SLABS)	1.00	0.75
69 PUMPING	LOW	30 (SLABS)	1.00	1.00
71 FAULTING	LOW	30 (SLABS)	1.00	1.00
71 FAULTING	MEDIUM	30 (SLABS)	1.00	2.00
74 JOINT SPALL	LOW	219 (SLABS)	3.44	1.82
74 JOINT SPALL	MEDIUM	30 (SLABS)	1.00	1.00
74 JOINT SPALL	HIGH	10 (SLABS)	1.00	3.00
75 CORNER SPALL	MEDIUM	119 (SLABS)	1.88	1.24

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

```

LOAD          RELATED DISTRESSES = 2.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY RELATED DISTRESSES = 62.00 PERCENT DEDUCT VALUES.
OTHER         RELATED DISTRESSES = 36.00 PERCENT DEDUCT VALUES.

```

```

Network ID      - SABRE
Branch Name     - Main Apron           Slab Length    - 15.00 LF
Branch Number   - A5B                 Slab Width     - 12.50 LF
Section Number  - 1      Family - DEFAULT  Number of Slabs - 1523

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :           Safety:      Drainage Cond.:
Shoulder Cond. :           Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION = 95                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS = 77
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 25
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 9 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 7.0%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
62 LINEAR CR	LOW	3 (SLABS)	1.00	1.00
63 LINEAR CR	MEDIUM	12 (SLABS)	1.00	1.00
64 DURABIL CR	LOW	3 (SLABS)	1.00	0.50
67 LARGE PATCH	LOW	6 (SLABS)	1.00	0.75
73 SHRINKAGE CR	N/A	3 (SLABS)	1.00	0.60
71 FAULTING	LOW	30 (SLABS)	1.00	1.00
71 FAULTING	MEDIUM	30 (SLABS)	1.00	2.00
74 JOINT SPALL	LOW	61 (SLABS)	4.00	1.93
74 JOINT SPALL	MEDIUM	27 (SLABS)	1.80	2.46
75 CORNER SPALL	LOW	15 (SLABS)	1.00	0.30
75 CORNER SPALL	MEDIUM	6 (SLABS)	1.00	0.80

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

```

LOAD          RELATED DISTRESSES = 19.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY RELATED DISTRESSES = 6.00 PERCENT DEDUCT VALUES.
OTHER         RELATED DISTRESSES = 75.00 PERCENT DEDUCT VALUES.

```

```

Network ID      - SABRE
Branch Name     - South Hangar Apron      Slab Length    -    15.00 LF
Branch Number   - A6B                    Slab Width     -    12.50 LF
Section Number  - 1      Family - DEFAULT  Number of Slabs -    246

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:      Drainage Cond.:
Shoulder Cond. :      Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION = 91                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS = 10
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 8
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 5 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 8.0%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
62 LINEAR CR	HIGH	3 (SLABS)	1.04	2.99
63 LINEAR CR	LOW	1 (SLABS)	1.00	1.00
63 LINEAR CR	MEDIUM	5 (SLABS)	2.08	5.66
73 SHRINKAGE CR	N/A	1 (SLABS)	1.00	0.60
74 JOINT SPALL	LOW	4 (SLABS)	1.56	1.30
74 JOINT SPALL	MEDIUM	3 (SLABS)	1.04	1.15

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

```

LOAD          RELATED DISTRESSES = 76.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY RELATED DISTRESSES = 0.00 PERCENT DEDUCT VALUES.
OTHER         RELATED DISTRESSES = 24.00 PERCENT DEDUCT VALUES.

```

```

Network ID      - SABRE
Branch Name     - South Hangar Apron
Branch Number   - A7B
Section Number  - 1      Family - DEFAULT
Section Length  - 615.00 LF
Section Width   - 60.00 LF
Section Area    - 36900.00 SF

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:          Drainage Cond.:
Shoulder Cond. :          Overall Cond.:          F.O.D.:
-----

```

```

PCI OF SECTION = 81                                RATING = VERY GOOD

```

```

TOTAL NUMBER OF SAMPLE UNITS = 6
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 5
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 5 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 1.6%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
48 L & T CR	LOW	1361.75 (LF)	3.69	11.78
48 L & T CR	MEDIUM	477.72 (LF)	1.29	12.66

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

LOAD	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	100.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.



```

Network ID      - SABRE
Branch Name     - South Washrack          Slab Length    -    12.50 LF
Branch Number   - A8B                    Slab Width     -    12.50 LF
Section Number  - 1      Family - DEFAULT  Number of Slabs -    48

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:      Drainage Cond.:
Shoulder Cond. :          Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION = 93                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS = 2
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 2
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 2 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 15.0%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
63 LINEAR CR	LOW	1 (SLABS)	2.08	2.20
63 LINEAR CR	MEDIUM	1 (SLABS)	2.08	5.66

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

```

LOAD          RELATED DISTRESSES = 100.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY RELATED DISTRESSES = .00 PERCENT DEDUCT VALUES.
OTHER         RELATED DISTRESSES = .00 PERCENT DEDUCT VALUES.

```

```

Network ID      - SABRE
Branch Name     - Middle Hangar Apron      Slab Length    -    15.00 LF
Branch Number   - A9B                     Slab Width     -    12.50 LF
Section Number  - 1      Family - DEFAULT   Number of Slabs -    216

```

```

=====
-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:      Drainage Cond.:
Shoulder Cond. :          Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION =    90                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS =      9
NUMBER OF RANDOM SAMPLE UNITS SURVEYED      =      7
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED =      0
RECOMMENDED MINIMUM OF      5 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED =  2.5%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
65 JT SEAL DMG	LOW	31 (SLABS)	14.29	2.00
65 JT SEAL DMG	MEDIUM	185 (SLABS)	85.71	7.00
71 FAULTING	LOW	3 (SLABS)	1.19	1.44
74 JOINT SPALL	MEDIUM	3 (SLABS)	1.19	1.58
75 CORNER SPALL	LOW	4 (SLABS)	1.79	0.70
75 CORNER SPALL	MEDIUM	3 (SLABS)	1.19	0.80

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

```

LOAD          RELATED DISTRESSES =      .00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY RELATED DISTRESSES =  66.00 PERCENT DEDUCT VALUES.
OTHER         RELATED DISTRESSES =  34.00 PERCENT DEDUCT VALUES.

```

```

Network ID      - SABRE
Branch Name     - Middle Hangar Apron      Section Length - 551.00 LF
Branch Number   - A10B                    Section Width  - 60.00 LF
Section Number  - 1      Family - DEFAULT  Section Area   - 33060.00 SF

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:      Drainage Cond.:
Shoulder Cond. :      Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION = 61                                RATING = GOOD

```

```

TOTAL NUMBER OF SAMPLE UNITS = 6
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 5
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 5 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 6.1%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
45 DRESSION	LOW	4084.84 (SF)	12.36	29.49
48 L & T CR	LOW	450.07 (LF)	1.36	5.70
48 L & T CR	MEDIUM	336.45 (LF)	1.02	11.33
53 RUTTING	LOW	35.29 (SF)	0.11	8.60

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

LOAD	RELATED DISTRESSES =	16.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	31.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	53.00 PERCENT DEDUCT VALUES.

```

Network ID      - SABRE
Branch Name     - North Washrack      Slab Length    -    25.00 LF
Branch Number   - A11B                Slab Width     -    12.50 LF
Section Number  - 1      Family - DEFAULT  Number of Slabs -    24

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :      Safety:      Drainage Cond.:
Shoulder Cond. :      Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION = 57                                RATING = GOOD

```

```

TOTAL NUMBER OF SAMPLE UNITS = 1
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 1
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 1 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 2.5%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
63 LINEAR CR	LOW	5 (SLABS)	20.83	14.00
63 LINEAR CR	MEDIUM	4 (SLABS)	16.67	25.60
65 JT SEAL DMG	HIGH	24 (SLABS)	100.00	12.00
71 FAULTING	LOW	1 (SLABS)	4.17	3.92
74 JOINT SPALL	LOW	1 (SLABS)	4.17	1.96

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

```

LOAD          RELATED DISTRESSES = 69.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY RELATED DISTRESSES = 21.00 PERCENT DEDUCT VALUES.
OTHER         RELATED DISTRESSES = 10.00 PERCENT DEDUCT VALUES.

```

```

Network ID      - SABRE
Branch Name     - North Hangar Apron      Slab Length    -    15.00 LF
Branch Number   - A12B                   Slab Width     -    15.00 LF
Section Number  - 1      Family - DEFAULT Number of Slabs -    65

```

```
=====
```

```

-----
-
  Inspection Date: DEC/05/2001
  Riding Quality :                      Safety:      Drainage Cond.:
  Shoulder Cond. :                      Overall Cond.: F.O.D.:
-----
-

```

```

PCI OF SECTION =    99                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS =          3
NUMBER OF RANDOM SAMPLE UNITS SURVEYED    =          3
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED =          0
RECOMMENDED MINIMUM OF      3 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED =    2.2%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
74 JOINT SPALL	MEDIUM	1 (SLABS)	1.54	2.19

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

```

LOAD          RELATED DISTRESSES =    .00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY RELATED DISTRESSES =    .00 PERCENT DEDUCT VALUES.
OTHER         RELATED DISTRESSES = 100.00 PERCENT DEDUCT VALUES.

```

```

Network ID      - SABRE
Branch Name     - North Hangar Apron
Branch Number   - A13B
Section Number  - 1      Family - DEFAULT
Section Length  - 360.00 LF
Section Width   - 60.00 LF
Section Area    - 19025.00 SF

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:      Drainage Cond.:
Shoulder Cond. :          Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION = 68                                RATING = GOOD

```

```

TOTAL NUMBER OF SAMPLE UNITS = 3
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 3
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 3 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 9.5%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
45 DRESSION	LOW	1787.56 (SF)	9.40	26.18
48 L & T CR	LOW	234.88 (LF)	1.23	5.46
48 L & T CR	MEDIUM	19.04 (LF)	0.10	4.00
49 OIL SPILLAGE	N/A	105.77 (SF)	0.56	3.13

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

LOAD	RELATED DISTRESSES =	.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY	RELATED DISTRESSES =	24.00 PERCENT DEDUCT VALUES.
OTHER	RELATED DISTRESSES =	76.00 PERCENT DEDUCT VALUES.

```

Network ID      - SABRE
Branch Name     - Hot Refuel Pads 1-6      Slab Length    -    15.00 LF
Branch Number   - A14B                     Slab Width     -    12.50 LF
Section Number  - 1      Family - DEFAULT   Number of Slabs -    108

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :          Safety:          Drainage Cond.:
Shoulder Cond. :          Overall Cond.:          F.O.D.:
-----

```

```

PCI OF SECTION = 93                                RATING = EXCELLENT

```

```

TOTAL NUMBER OF SAMPLE UNITS = 6
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 6
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 5 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = 5.2%

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
63 LINEAR CR	LOW	3 (SLABS)	2.78	2.81
73 SHRINKAGE CR	LOW	2 (SLABS)	1.39	0.79
74 JOINT SPALL	LOWIUM	14 (SLABS)	12.50	4.14
74 JOINT SPALL	MEDIUM	2 (SLABS)	1.39	1.97
75 CORNER SPALL	LOW	2 (SLABS)	1.39	0.61

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

```

LOAD          RELATED DISTRESSES = 27.00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY RELATED DISTRESSES = .00 PERCENT DEDUCT VALUES.
OTHER         RELATED DISTRESSES = 73.00 PERCENT DEDUCT VALUES.

```

```

Network ID      - SABRE
Branch Name     - Helipad
Branch Number   - A15B
Section Number  - 1      Family - DEFAULT
Slab Length     -      15.00 LF
Slab Width      -      15.00 LF
Number of Slabs -      16

```

```

-----
Inspection Date: DEC/05/2001
Riding Quality :      Safety:      Drainage Cond.:
Shoulder Cond. :      Overall Cond.:      F.O.D.:
-----

```

```

PCI OF SECTION = 70                                RATING = GOOD

```

```

TOTAL NUMBER OF SAMPLE UNITS = 1
NUMBER OF RANDOM SAMPLE UNITS SURVEYED = 1
NUMBER OF ADDITIONAL SAMPLE UNITS SURVEYED = 0
RECOMMENDED MINIMUM OF 1 RANDOM SAMPLE UNITS TO BE SURVEYED.
STANDARD DEVIATION OF PCI BETWEEN RANDOM UNITS SURVEYED = . %

```

\*\*\* EXTRAPOLATED DISTRESS QUANTITIES FOR SECTION \*\*\*

DISTRESS-TYPE	SEVERITY	QUANTITY	DENSITY %	DEDUCT VALUE
65 JT SEAL DMG	LOW	16 (SLABS)	100.00	2.00
74 JOINT SPALL	HIGH	2 (SLABS)	12.50	23.36
75 CORNER SPALL	MEDIUM	2 (SLABS)	12.50	8.47

\*\*\* PERCENT OF DEDUCT VALUES BASED ON DISTRESS MECHANISM \*\*\*

```

LOAD          RELATED DISTRESSES = .00 PERCENT DEDUCT VALUES.
CLIMATE/DURABILITY RELATED DISTRESSES = 6.00 PERCENT DEDUCT VALUES.
OTHER         RELATED DISTRESSES = 94.00 PERCENT DEDUCT VALUES.

```



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13. SUPPLEMENTARY NOTES					
14. ABSTRACT  An airfield pavement condition survey was performed in December 2001 at Sabre Army Heliport, Fort Campbell, Kentucky. The pavement surface condition was evaluated by the pavement condition index (PCI) survey procedure. Results of the evaluation are presented and include: (a) a tabulation of the existing pavement features, (b) the PCI and rating of the surface of each pavement feature, and (c) maintenance and repair recommendations based on the condition survey.					
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